Established 1835.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper and for Transmission Abroad.*]

No. 3194.—VOL. LXVI. LONDON, SATURDAY, NOVEMBER 7, 1896. PRICE..... SIXPENCE. BY POST, £1 6s. PER ANNUM.

A. CORNFORTH AND CO.,
STOCK BROKERS AND MINING SHARE DEALERS
18, NEW BROAD STREET, LONDON, E.C.

BUSINESS IN ALL CLASSES OF STOCKS AND SHARES.
SPECIAL BUSINESS in KAFFIR, WEST AUSTRALIAN and all Mining Shares. Prompt Delivery made a special feature.
Mining Circular free on application.
BANKERS: CITY BANK.—Telegraphic Address: "Athelney, London."

ASSAY OFFICE AND LABORATORY.
B. KITTO'S,
30 and 31, ST. SWITHIN'S LANE, LONDON, E.C.

ASSAYS MADE OF ALL ORES. ANALYSES.
ASSAYING TAUGHT.

T. VAUGHAN HUGHES,
Assoc. Royal School of Mines, Fellow of the Institute of Chemistry, &c., London.
METALLURGIST, ASSAYER, MINING and ELECTRICAL ENGINEER

Assays and Technical Analyses of all kinds performed. Sampling of Ores, &c., and Examination of Mining Properties undertaken in any part of the World. Negotiations for the Sale of Mining Properties conducted.
List of Charges Furnished on Application.
ESTABLISHED 1888.
Address: ASSAY OFFICE,
GREENFIELD, HOLYWELL,
Near CHESTER, ENGLAND.

ANDREWS and COMPANY,
MINING AGENTS AND SHAREDEALERS,
105, LONDON WALL, LONDON, E.C.
10 YEARS' EXPERIENCE IN ENGLAND, AFRICA, AND SOUTH AMERICA
Properties Inspected and Reported upon
MINING MACHINERY AND REQUISITES SUPPLIED.
Telegraphic Address: "OFFICINA, LONDON." Bankers: BROWN, JANSON, AND CO.

HERBERT T. MARKS, M.I.M.E.,
Consulting Mining and Metallurgical Engineer.
(Late) Mining Engineer and Assayer to the Transvaal Government
Surveys, Plans, Assays, Reports on Miners' Properties Executed.
Erection of Mining and Metallurgical Machinery Undertaken.
Syndicates Represented. Eleven Years' Practical Experience.
HIGHEST REFERENCES.
Buyers consulted by Shareholders and intending Investors in South African Mining Properties.
New Broad Street House, London, E.C., and
17 and 18, Goodman's Buildings, Johannesburg.
Telegraphic Address: "Topazolite," London. "Masorite," Johannesburg.

W. PELLEW HARVEY,
F.C.S., M.Fed.Inst.M.E.,
MINING ENGINEER AND METALLURGICAL CHEMIST
VANCOUVER, BRITISH COLUMBIA.
Uses A.B.C. and Moreing and Neal's Codes. Cable:—"Analysis," Vancouver Canada.
Government Examiner under the Bureau of Mines' Act.
Canadian Agent of the Cassel Gold Extracting Company (Limited), Glasgow.
Five Years in British Columbia, and for several years at Swansea and Redruth.
Information supplied to Syndicates at moderate terms.

PUMPING MACHINERY.
See Illustrated Advertisement every third week.
HATHORN, DAVEY and CO., LEEDS.

CANNOCK CHASE COAL BY CANAL AND RAILWAY.
THE COMPANY SEND COAL BY RAILWAY in Trucks to all Stations, and load Canal Boats at their extensive Wharves on the Anglesey Branch of the Birmingham Canal, adjoining the Colliery; and also at Hednesford Basin, Cannock. For Prices, apply to
J. NEWLAND BROWN,
WARWICK CHAMBERS, CORPORATION STREET,
BIRMINGHAM.
Head Department: COLWORE CHAMBERS, 1, NEWHALL ST., Birmingham.
London Office: 9 and 10, Southampton Street, High Holborn, W.C.

GOLD ASSAYING, &c.
GENTLEMEN having only a short time at their disposal can obtain SPECIAL INSTRUCTION in ASSAYING ORES of all kinds.
For Prospectuses, &c., apply to
MARTIN and PETHYBRIDGE,
ASSAYERS, &c., LABORATORY AND TESTING WORKS,
193, KING'S ROAD, CHELSEA, S.W.

Complete Analysis of Constituents of any Ore from £1 1s. to £2 2s.
GOLD ASSAYS CONDUCTED WITH CHECK. 7s. 6D. PER SAMPLE.
GOLD ORES PRACTICALLY TESTED BY STAMP BATTERY
And other processes.

ASSAYING AND METALLURGY.
SPECIAL facilities are given for INSTRUCTION and PRACTICE in the ASSAYING and TREATMENT of GOLD and all other ores in the Metallurgical Laboratories of King's College, Strand, London. Persons of all ages, are admitted at any time for a period of one month or upwards. Special arrangements are made for those who cannot devote their whole time to the work. The laboratory, which is open every day, is open 7 to 9 on Friday evenings. For further particulars apply to Professor HUNTINGTON

J. GRANT MACLEAN,
STOCK AND SHARE BROKER, STIRLING, N.B.
TELEGRAPHIC ADDRESS—"BONDING, STIRLING."
Clients supplied gratis with Price Lists and Prospectuses explaining the whole system of dealing in Shares.
REFERENCES ON APPLICATION
Refers to his Share Market List on Page 1427 of to-day's Journal.

GEORGE GREGORY AND CO.,
STOCK AND SHARE DEALERS,
LONDON, MANCHESTER, LIVERPOOL, BRIGHTON, HASTINGS.
Every Investor and Speculator, before operating, should read Gregory's "Hints to Speculators." 420 pages. Ninth Edition, Illustrated. Gratis and post free on application to
GEORGE GREGORY & CO.,
STOCK AND SHARE DEALERS,
HEAD OFFICES:
NOS. 3 AND 4, TOKENHOUSE BUILDINGS, LOTHBURY, BANK OF ENGLAND, LONDON, E.C., and BRANCHES.

J. R. and W. P. BAINES,
SHARE BROKERS, MANCHESTER.
TELEGRAMS—"JARDAINES." (ESTAB. 1855.) TELEPHONE—2357 (Nat.)
Refer to their Market Report on page 1427 of this Journal.

DONALD CLARK, B.C.E., M.E.,
BAIRNSDALE, VICTORIA.
Director of the North Gippsland School of Mines.
GIPPSLAND A SPECIALTY.
REPORTS ON MINES AND MINING PROPERTIES.
Cable Address—CLARK, Bairnsdale.
Cable Code—McNeill's and Moreing and Neale.

ROSS S. CRADDOCK, M.E.,
Care of P.O., Midland,
ONTARIO, CANADA.
Reports furnished on Gold Mines and other Properties.

ASSAY OFFICE AND ORE TESTING WORKS.
JOHN D. WARREN,
(Late HERBERT R EDMANDS)
BERKLEY GROVE WORKS,
BERKLEY ROAD, CHALK FARM, N.W.
Gold and Silver Assays, 7s. Cyanide, Amalgamation, Chlorination, or Concentration Tests, including Assays, £1 each.
Assays made of all Ores.

MINING AND INDUSTRIAL EXCHANGE OF NEW YORK.
THIS EXCHANGE is in communication with every Mining District of the United States. It advises Investors as to the progress and condition of Mining Companies, and executes Orders for Stocks. It arranges for the Examination of Mining Properties by Qualified Experts at a reasonable cost. It has many first-class Productive Mines on its books for sale on strictly "bed-rock" terms. Its business connections are of the highest character.
All communications should be addressed to the SECRETARY,
Mr. CHARLES MILES,
179, WASHINGTON BUILDING, NEW YORK CITY, N.Y.

BRITISH GUIANA AND THE NEW GOLD INDUSTRY.
BRITISH GUIANA BANK.
Incorporated by Ordinance of the Governor and Court of Policy of British Guiana 11th November, 1836,
Confirmed by the Queen in Council, 6th October, 1838.
SUBSCRIBED CAPITAL..... $1,400,000 | PAID-UP..... $926,520
RESERVE FUND, $288,000
CHAIRMAN: HON. W. A. WOLSELEY.
HEAD OFFICE: GEORGETOWN, DEMERARA.
MANAGER: GEO. W. LANE. | ACCOUNTANT: F. A. CONYERS Jun.
BRANCH OFFICE: NEW AMSTERDAM, BERBICE,
AGENTS. London..... Smith, Payne, and Smiths.
New York..... Maitland, Phelps, and Co.
British North America Bank of British North America.
Newfoundland ..... Bank of Nova Scotia, St. John's.
Current Accounts opened in accordance with the usual practice of Bankers.
Money Received on Deposit on Interest. Bills of Exchange negotiated.
Letters of Credit issued by London Agents on Demerara free of charge.
Raw Gold Purchased or Shipped on Consignment.
Bills Collected and every other description of Banking Business transacted

THE BANK OF AFRICA (LIMITED).
ESTABLISHED 1879.
Head Office, 113, Cannon Street, London.
SUBSCRIBED CAPITAL £1,575,000
Paid-up, £525,000; Reserve Fund, £297,500
General Manager—JAMES SIMPSON, Cape Town.
BRANCHES
Aliwal North, Cape Town, Cradock, East London, Grahamstown, Kimberley King Williams Town, Oudtshoorn, Paarl, Port Elizabeth, Queen's Town Bethlehem, Bloemfontein, Fauresmith, Harrismith, Kroonstad, Ladybrand, Winburg, Durban, Newcastle, Pietermaritzburg, Barberton, Johannesburg, Klerksdorp, Pretoria Vrijheid, Beira, Delagoa Bay, Buluwayo, Salisbury, Umtali.
The Bank issues drafts, makes telegraphic remittances, buys and collects bills and conducts all kinds of banking business.
Deposits received on terms which may be ascertained on application.
R. G. DAVIS, Secretary.

ESTABLISHED 1851
BIRKBECK BANK
SOUTHAMPTON BUILDINGS, CHANCERY LANE, LONDON.
TWO-AND-A-HALF per CENT. INTEREST allowed on DEPOSITS repayable on Demand.
TWO per CENT. on CURRENT ACCOUNTS on the minimum monthly balances, when not drawn below £100.
SAVINGS DEPARTMENT
For the encouragement of Thrift, the Bank receives small sums on Deposit and allows Interest monthly on each completed £1
The Birkbeck Almanack, with full particulars, post free.
FRANCIS RAVENSCROFT, Manager.

CHARLETON AND CO.,
A. G. CHARLETON, A.R.S.M., F. W. GREY, A.R.S.M.,
MINING ENGINEERS AND MINE MANAGERS,
undertake Inspections and Reports and the Design of Mining and Milling Plant of all kinds.
Dashwood House, 9, New Broad Street, E.C.
Cable Address: "Ingressio." Bedford McNeill's and Broomhall's Codes.

ALBERT H. HALDER,
TELEPHONE No. 11 736. CONSULTING ENGINEER,
Member Fed. Inst M.E., Member Am. Inst. M.E.
Offices: BULAWAYO and JOHANNESBURG.
Is prepared to give Reports upon Mining and other Properties in Transvaal and Rhodesia.
Management and Supervision of Mines and Finance Companies.
HIGHEST REFERENCES.
At present in London. Temporary address.
6, DRAPERS' GARDENS, E.C.

L. C. NICKERSON and CO.,
MEMBERS COLORADO SPRINGS MINING STOCK ASSOCIATION
Do a General Commission Business in
CRIPPLE CREEK MINES;
PROSPECTS AND LISTED MINING STOCKS.
HIGH GRADE AND DIVIDEND-PAYING STOCKS A SPECIALITY.
Portland, Isabella, Union, Elkton Consolidated, Moon, Anchor, and Anaconda are selling far below their intrinsic value.
Correspondence solicited. Highest Bank References furnished.
104, Pikes Peak Ave., P.O Box 491, Colorado Springs, Colo., U.S.A.

HOWARD WEST, A.R.S.M.,
MINING ENGINEER,
Two and-a half Years in the Kootenay District.
Properties Examined and Reported on. General information given about Mines in the Province.
A.B.C. CODE. NEW DENVER, BRITISH COLUMBIA.

WILLIAM THOMPSON,
Assoc. M.Inst.C.E.,
CONSULTING MINING ENGINEER,
Formerly Government Mineralogist, Queensland.
Ex-President Coolgardie Chamber of Mines.
Mr. THOMPSON is now in British Columbia, and is prepared to furnish Reports on Mines and Mining Properties.
Apply at Offices: 58, New Broad Street, E.C.

PUMPS AND PUMPING MACHINERY.
SEE ILLUSTRATED ADVERTISEMENT (PAGE 1403).
JOSEPH EVANS & SONS, Wolverhampton.

APPLEBY'S HANDBOOK of MACHINERY.
By C. J. APPLEBY, M.Inst.C.E.
New Edition, entirely re-written, with numerous Illustrations and Prices. The Sections now ready relate to (1.) Prime Movers (Engines, Turbines, &c.), (4.) Machine Tools and Accessories (6.) Mining, Colonial, and Manufacturing Machinery. Cloth, 3s. 6d. each Section.
MINING MACHINERY separately, cloth, 2s. 6d.
E. and F. N. SPON, 125, Strand, London, W.C.

BARTON, SONS, & HEWER,
Mining Engineers, Metallurgists, and General Accountants.
14, CASTLEREAGH STREET, SYDNEY, N.S.W., & COOLGARDIE, W.A.
All kinds of Mining Engineering undertaken and carried out under the supervision of one of the Firm.
Mines and Mining Properties in all Australia visited, inspected, and reported upon.
Machinery purchased, inspected, or advised upon.
The Firm will act as Consulting and Advising Engineers in all matters connected with the Working or Treatment of Ores; will undertake the Management of Mines, the Erection of Machinery, either during development or otherwise, or will take the Legal Management either as Agents, or under a Board of Directors.
Assays or Chemical Analysis made or Practical Results obtained by our Metallurgical Staff.
Mining Books of Account opened, kept, and audited; Estates liquidated, and all the Business of General Accountants and Agents conducted.
The Financial and General Management will be under the supervision of Mr. RUSSEL BARTON, for 16 years Chairman and Visiting Director of the Great Cobar and Nymagee Copper and other Mines in N.S.W.
The Engineering and Metallurgical Department will be conducted by Mr. W. W. BARTON, Mining Engineer, Graduate of Freiberg, and Engineer and Manager for many years in New South Wales.
The Survey and Drafting Department will be supervised by Mr. A. J. C. BARTON, for nine years in the Survey Department of New South Wales.
The Accountant's Department will be under the personal conduct of Mr G HEWER, Chartered Accountant.
References in London—Messrs. DANGAR, GRANT, and Co., Fenchurch House, Fenchurch Street, E.C.; GEORGE HARDIE, Esq., 63, New Broad Street, E.C.
Telegraphic Address: Sydney, Lee." Coolgardie, "Pickwick." Code Bedford McNeill's

For Index to Advertisements see Page 1402. For Literary Contents see Page 1416.

INDEX TO ADVERTISEMENTS.

(THOSE WITHOUT NUMBER OF PAGE DO NOT APPEAR IN THIS ISSUE.)

	PAGE
Anderson, Robert Hay ... ... Mining Engineer	1416
Andrews and Company ... ... Mining Agents	1401
Appleby, Bros. ... ... Handbook of Machinery	1401
Australian Gold Recovery Company	1415
Baines, J. R. and W. P.	1401
Bank of Africa, (Ltd.)	1401
Barton, Sons, and Hewer ... ... Mining Engineers, &c.	1401
Birkbeck Bank	1401
Blake and Knowles (Limited) ... ... Pumps	1432
Bowes-Scott and Western ... ... Mining Machinery	1436
British Guiana Bank	1401
Brunton and Pearse's Patent Mine Transit...	1432
Bute Works Supply Company (Limited) ... ... Steel Rails, &c.	1416
Business Cards—	
Bennett, Sons, and Co. ... ... Fuse Manufacturers	1428
Commans, R. E. ... ... Aerial Ropeways	1428
Clarkson-Stanfield Concentrator (Ltd.) ... Dry Concentration	1428
Chatterton, George J. ... ... Tube Maker	1428
Davis and Son ... ... Mining Instruments	1428
Davis and Sons, M. H. ... ... Mining Machinery	1428
Fraser and Chalmers (Ltd.) ... ... Mining Machinery	1428
Giles Ironworks Co. ... ... Rock and Ore Breaker	1428
King, Frederick J. ... ... Magnetic Ore Separators	1428
Rowbotham, Thomas, and Co. ... ... Mining Machinery	—
Luhrig Coal and Ore Dressing Appliances (Ltd.)	1428
Mason, J. H. ... ... Assayer, &c.	1428
Nobel's Explosives Co. (Ltd.) ... ... Water Cartridges, &c.	1428
Pool, J. and F. ... ... Metal Perforators	1428
Robey and Co. (Ltd.) ... ... Engines and Ore Crushers	1428
Schram and Co. ... ... Rock Drills	1428
United Asbestos Co. (Ltd.) ... ... Asbestos	1428
Unity Fuse	—
Van Wagenen ... ... Mining Engineer	1423
Cannock Chase Colliery Company ... ... Coal Exporters	1401
Cassel Gold Extracting Co. (Ltd.) ... MacArthur-Forrest Process	1429
Champion Rock Borer Co. ... ... Rock Borers	1429
Charleton, A. G., and Co. ... ... Mining Engineers	1401
Clark, Donald ... ... Mining Engineer	1401
Clarkson-Stanfield Concentrator (Ltd.) ... Dry Concentration	1405
Clayton and Shuttleworth... ... ... Engineers	1423
Cornforth and Co. ... ... Share Dealers	14 1
Cotton Powder Co. (Ltd.) ... ... Explosives	1430
Craddock, Ross S. ... ... Mining Engineer	14 1
Crosby Lockwood and Son's ... ... Publishers	—

	PAGE
Davies, Henry ... ... Mining Engineer	1401
Davis and Son ... ... Mining, &c., Instruments	1405
Daw, A. and Z. ... ... Rock Drills	1430
Delta Metal Co. (Ltd.) ... ... Metal	1432
Easton, Anderson, and Goolden ... ... Mining Machinery &c.	1431
Elliman, Sons, and Co. ... ... Embrocation	1429
Epps's Cocoa	1430
Evans, Joseph and Sons ... ... Pumps	1401-1403
For Sale—Gold Mine	1428
Fraser and Chalmers (Ltd.)... ... ... Mining Machinery	1402
Frictionless Engine Packing Company ... Engine Packing, &c.	—
Gates Ironworks Co. ... ... Rock and Ore Breaker	1430
Green, G. ... ... Ore Dressing Machinery	—
Gregory, G., and Co. ... ...Stock and Share Dealers	1401
Hadfield's ... ... Steel Castings	—
Halder, Albert H. ... ... Consulting Engineer	1401
Hansell, Charles and Co. ... ... Miners' Drill, &c.	1432
Hansell, F. L. ... ...Haulage Rollers	1402
Harvey, Julius and Co. ... ... Mining Machinery	1431
Harvey, W. Pellew ... ... Mining Engineer	1401
Hathorn, Davey and Co ... ... Pumping Engines	1401
Hay, J. Douglas ... ... Mining Engineer	1416
Hett, Chas. Louis ... ... Turbines	1402
Holman Bros. ... ... Rock Drills and Compressors	14.5
Howes, S. ... ... Turbines	1429
Hughes, T. Vaughan ... ... Mining Engineer	1401
Humboldt Engineering Works Co. ... ... Mining Machinery	1431
Huntington, Professor ... ...Instruction in Assaying	1401
Ingersoll-Sergeant Drill Co. of America, Rock Drills and Compressors	1402
Jones, J. A. ... ... Mining Engineer	1402
Kitto, B. ... ... Assay Office	1401
Krupp Grusonwerk ... ... Ore Extraction Machinery	1409
Lambert's Wharfage Company	1416
Larmuth, T., and Co ... ... Mining Machinery	1431
L. LePersonne ... ... Iron Merchants, &c.	1416
Maclean, J. Grant ... ... Share and Iron Broker	1401
Marks, H. T. ... ... Consulting Mining Engineers	1401
Marsden, H. R. ... ... Stone Breakers and Ore Crushers	1432
Martin and Pethybridge ... ... Assay Laboratory	1401
McNeill's Code	—
Merton and Co. ... ... Aluminium	1404
Mining and Industrial Exchange of New York	1401
Monger, J. and Co.... ... Merchants and Forwarding Agents	1428

	PAGE
Negretti and Zambra ... Surveying and Mining Instruments	
Nickerson and Co. ... ... Bankers and Brokers	
Nobel's Explosives Co. (Ltd.) ... ... Water Cartridges, &c.	
Parkin ... ... Signal Bells	
Pass and Son ... ... Buyers of Lead Ashes, &c.	
Phosphor Bronze Co. (Ltd.)... ... ... Bells Metal, &c.	
Piggott and Co. ... ... Welded and Rivetted Pipes	
Publications—	
Davis, Henry ... ... Mining Machinery	
Ireland, James ... ... Colliery Ready Reckoner	
Karuth, Frank ... ...Notes on the Philippine Islands	
Louis, Henry ... ... A Hand-book of Gold Milling	
Nicholas, William ... The Golden Quartz Reefs of Australia	
Rose, James ... ... New Guide to the Iron Trade	
Safford, Frank ... ...The Law of Merchandise Marks	
Tacknote... ... ... Form of Licenses to Explore	
Wilkinson, W. F. ...History of the Holmbush, Redmoor, &c.	
Wilson, Effingham ... ... Publishers	
Railway Passengers Assurance Company	
Robey and Co. ... ... Engines and Ore Crushers	
Roburite Explosives Co. (Ltd.) ... ... Explosives	
Ropeway Syndicate ... ... Aerial Wire Ropeways	
Sachsenberg, Bros. (Limited) ... Engineers and Shipbuilders	
Sales by Auction	
Sandycroft Foundry Company ... ... Electrical Machinery	
School of Mining, Engineering, and Metallurgy, Truro, Cornwall...	
Schram and Co. ... ... Rock Drills and Compressors	
Shipping—Donald Currie and Co.	
Union Steamship Company	
Smith, Thomas and Sons ... ... Engineers	
Stanley, W. F. ... ... Mathematical Instruments	
Stephens, James ... ... Smelter, &c.	
Stewart and Clydesdale ... ... Iron and Steel Tubes	
Tangyes Limited ... ... Engines, &c.	
Tonge, Thomas ... ... Mining Agent	
Tuck and Co. (Ltd.) ... ... Packing Manufacturers	
United Asbestos Co. (Ltd.)... ... ... Asbestos	
Walker Brothers ... ...Air Compressing Engines	
Wanted	
Warren, John D. ... ... Assay Office	
West, Howard ... ... Mining Engineer	

ROCK DRILLS FOR STEAM OR COMPRESSED AIR.

AIR COMPRESSORS.

COAL MINING MACHINE.

DIAMOND & PROSPECTING DRILLS.

SEND FOR CATALOGUE.

TELEGRAMS:
"ENYAM, LONDON."

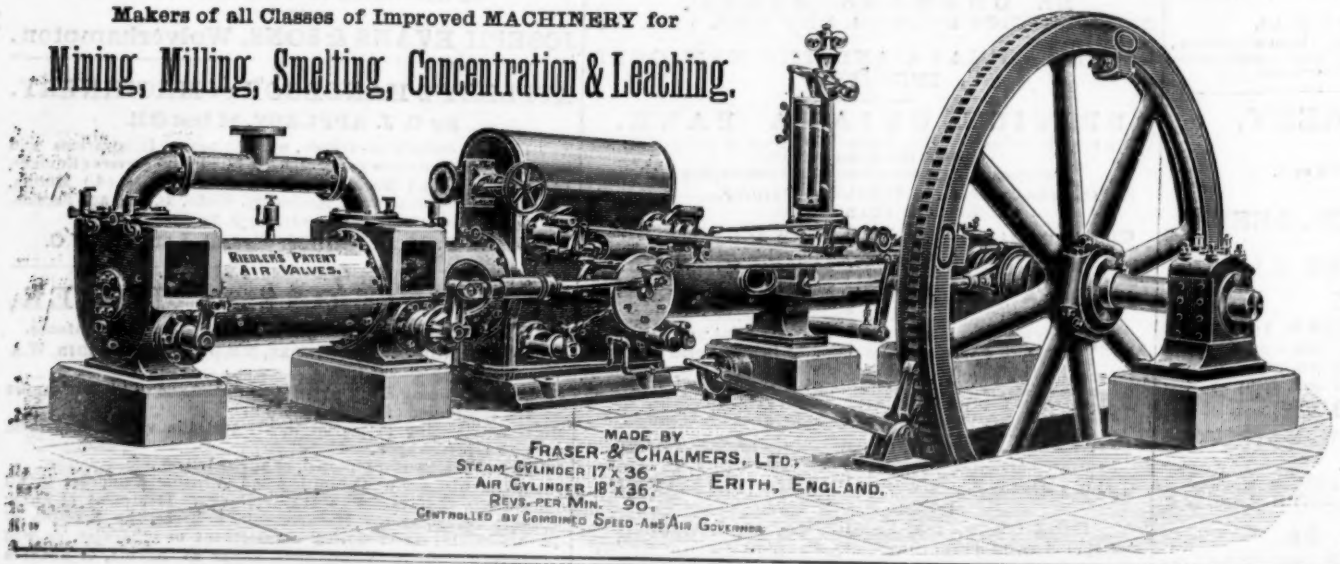
A. E. W. GWYN, Agent.

THE INGERSOLL-SERGEANT DRILL CO., 114a, QUEEN VICTORIA STREET, LONDON, E.C.

FRASER AND CHALMERS, LIMITED.

Makers of all Classes of Improved MACHINERY for

Mining, Milling, Smelting, Concentration & Leaching.



RIEDLER SYSTEM

Of PUMPS and COMPRESSORS insuring highest efficiency. The use of mechanically controlled valves allows high piston speed under heavy pressure, resulting in reduction of size of engine for given duty and greater economy of steam. At Paris the Riedler system effected a great economy of fuel in the Compressed Air Plant. At the Butte and Boston Mine, Montana, the Riedler Pump effected a saving of 60 per cent. of fuel over pumps previously used.

Send for Pamphlet.

Works:
ERITH, KENT;
CHICAGO, ILL., U.S.A.
Office:
43, Threadneedle St, LONDON, E.C.

W. F. STANLEY

Mathematical Instrument Manufacturer

To H.M. Government, Council of India, Science and Art Department, Admiralty, &c.

MINING, SURVEYING AND DRAWING INSTRUMENTS

OF EVERY DESCRIPTION, OF THE HIGHEST QUALITY AND FINISH, AT THE MOST MODERATE PRICES.

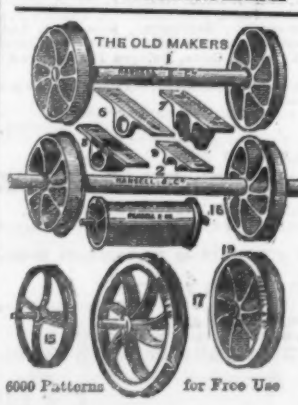
Price Lists post free.

Address—Great Turnstile, Holborn, London, W.C.

GOLD MEDAL, Inventions Exhibition, 1885
" " Mining " 1890

J. A. JONES, Mining Engineer,
(M.Inst.M.M., M.N.Eng.Inst.M.M.E.)
GIJON (ASTURIAS) SPAIN

THE ORIGINAL HANSELL STEEL WHEELS



6000 Patterns for Free Use

& AXLES fitted complete.

900,000 OF OURS IN DAILY USE

Best and Cheapest Extant.

PREDECESSORS & RELATIVES were the FIRST MAKERS in SHEFFIELD.

STEEL HAULAGE ROLLERS AND PULLEYS Plain or "Corru."

BRICK MACHINE STEEL PARTS as PUG KNIVES, DIES, GRATES, &c.

STEEL BARROW WHEELS and FITTED AXLES, LIGHT & MOST DURABLE, WILL FIT ANY BARROW.

Picks, Shovels, Coke Forks, Files, Wedges, Hammers, Special Drill Steel, Saws, Special Screen Bars, Steel Castings (all kinds), &c.

F. L. HANSELL & CO.,

(Beware of Imitations).

Eyre Lane, SHEFFIELD.

WATER-POWER.

TURBINES OF ALL EFFICIENT TYPES.

Hett's Patent Pelton Wheels.

CHAS. LOUIS HETT,

HYDRAULIC ENGINEER,

BRIGG, ENGLAND.

THE WESTERN DAILY MERCURY.

The Paper for News.
The Paper for Advertisements.
The Paper for the People.

THE WESTERN WEEKLY MERCURY

The Paper for the Household.

These Journals have an enormous circulation throughout Devon and Cornwall, and are conveyed by specially chartered trains.

OFFICES: PLYMOUTH.

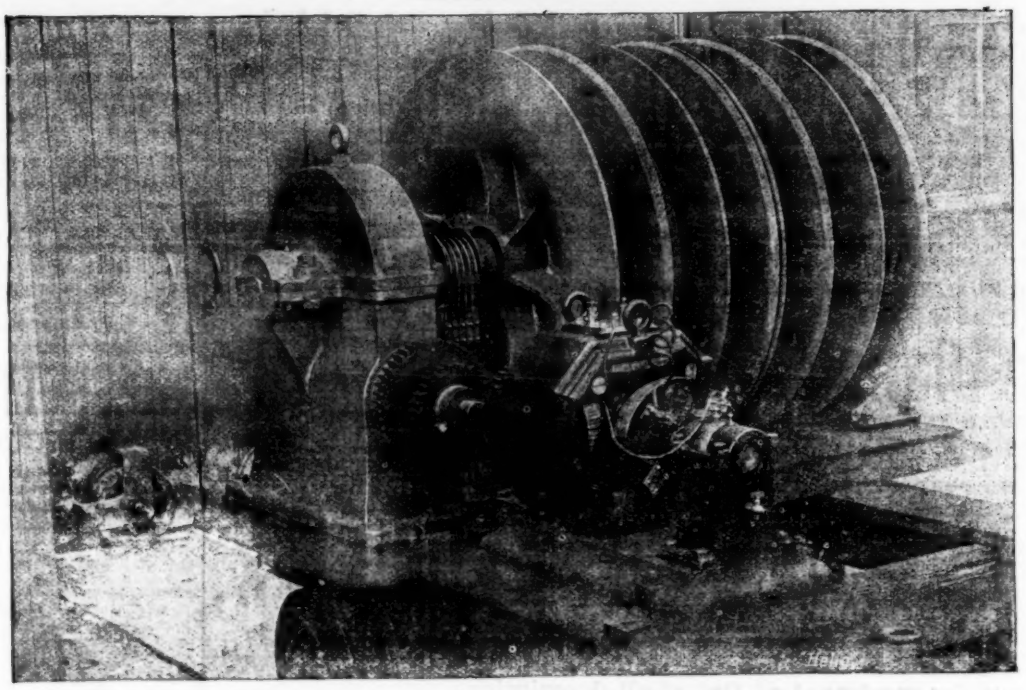
ELECTRICAL MACHINERY

Of every kind under the Keith Patents.

SPECIAL STUDY GIVEN TO POWER TRANSMISSION PLANT FOR MINING PURPOSES.

Complete EQUIPMENTS for LIGHTING and POWER PURPOSES.

KEITH MOTORS and DYNAMOS from 1 to 500 H.P.



ELECTRIC HAULING MACHINE.

ELECTRIC CRANES, HOISTS, PUMPS, DRILLS, &c.

ESTIMATES ON APPLICATION.

The SANDYCROFT Foundry and Engine Works Company, Ltd., Near CHESTER.

JOSEPH EVANS & SONS,

Telegrams: "EVANS," Wolverhampton.

Write for "MINING PUMP" Catalogue.

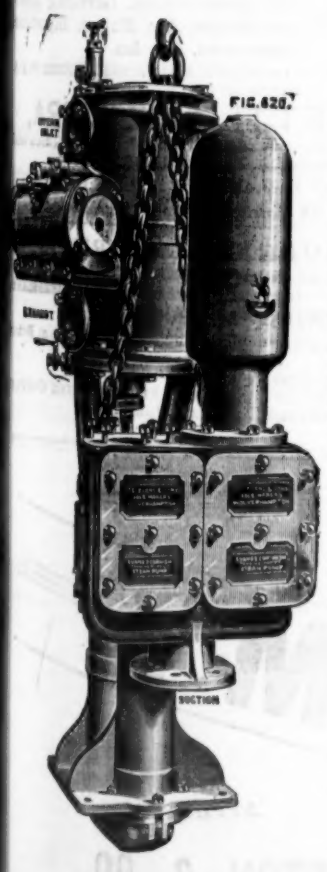
Nat. TELEPHONE, No. 7039. TRADE MARK.

SINKING PUMPS FOR MINES.

NO TAPPETS, LEVERS, OR EXTRANEOUS GEAR.

"EVANS and TONKIN'S" Patent "CORNISH" SINKING PUMPS have been used on all the recent modern sinking operations of importance, including

North's Navigation Collieries, the Blackwall Tunnel, the Barry Dock Extension, Hockley Hall Colliery, the Griff Colliery Sinkings, the Coppice Colliery, the Fishley Colliery, the Moss Hall Colliery, the North Walbottle Colliery, the West Hallam Colliery, Port Talbot Docks, Devonport Docks, and other large Sinkings, also North Wales, Rand, West African, West Australian, Victorian, South American Gold Mines, &c., &c.



GRIFF" PATTERN "CORNISH" SINKING PUMP.

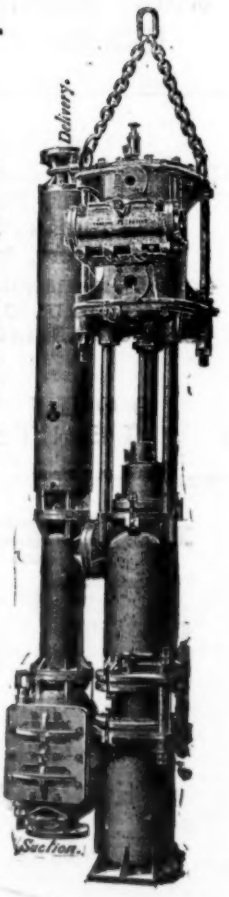
London Office
16, UNION COURT, OLD BROAD ST., E.C.

DEPOTS:
NEWCASTLE-ON-TYNE.
GLASGOW, WAKEFIELD,
MANCHESTER,
CARDIFF, and BELFAST.

JOHANNESBURG.
Etc.

FIG. 875, "FLUOMETER" PATENT STEAM VACUUM PUMP.

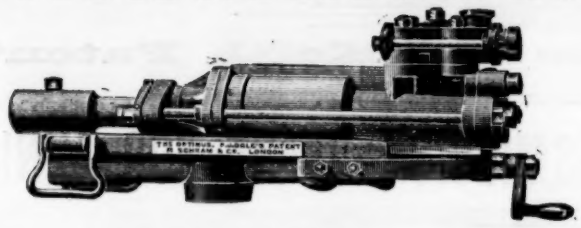
The "CORNISH" STEAM PUMP.
The "DUPLEX" STEAM PUMP.
The "RAM" STEAM PUMP.
The "RELIABLE" STEAM PUMP.
DONKEY PUMPS.
HORSE PUMPS.
POWER PUMPS.
AIR COMPRESSORS,
&c.



"STRAIGHT-LINE" PATTERN SINKING PUMP

CULWELL WORKS, WOLVERHAMPTON.

REVOLUTION IN ROCK DRILLING



"OPTIMUS" COMPOUND ROCK DRILL.

(P. J. OGLE'S PATENT.)

Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.

AIR COMPRESSORS,

WITH COMPOUND AIR AND STEAM CYLINDERS,

Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.

"SCHRAM'S" IMPROVED ROCK DRILLS,

SUPPLIED TO THE INDIAN, COLONIAL, AND OTHER GOVERNMENTS.

2500 IN USE IN ALL PARTS OF THE WORLD.

Hand-Power Diamond Prospecting Drills.

ESTIMATES AND FULL PARTICULARS ON APPLICATION.

RICHARD SCHRAM & CO., 17a, Great George St., Westminster, S.W.

TELEGRAMS "SCHRAM, LONDON," A1, A.B.C. and The Engineering Telegraph Codes Used.

FRIED. KRUPP GRUSONWERK,

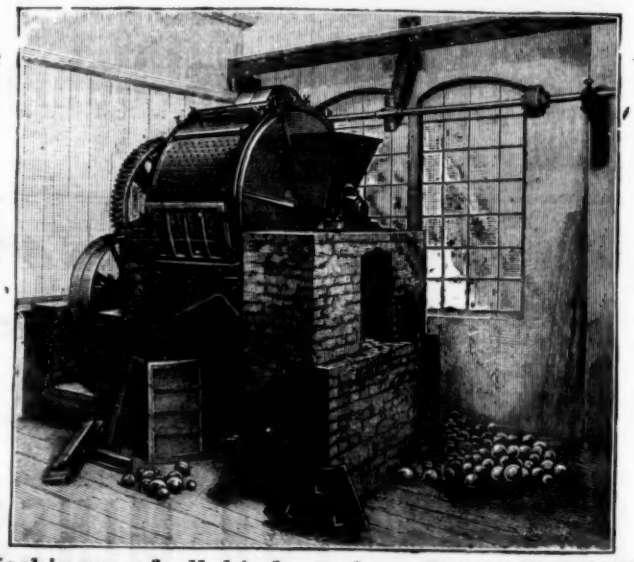
MANUFACTURERS OF

1. Chilled Cast Iron, Cast Steel and Malleable Iron Articles. MAGDEBURG-BUCKAU.
2. Machinery and Apparatus for treatment of Ore of all description.

GOLD EXTRACTION MACHINERY.

(Laszlo' Amalgamators giving 20 to 40 per cent. more Gold than others.)

SILVER EXTRACTION MACHINERY.



STAMP BATTERIES.

Patent Ball Mills.

(Dry Crushers.)

ORE CONCENTRATION

DRY SEPARATOR

OF

PAPE-HENNEBERG

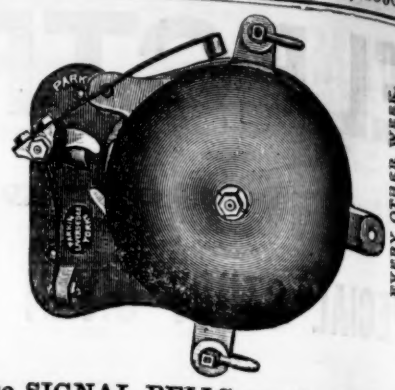
3. Disintegrating Machinery of all kinds, such as Patent Ball Mills for Ores, Quartz, Cement, Basic Slag Grinding, &c. Excelsior Mills for Food Products, also for Tanneries, Chemical Factories, Sugar Factories, &c. Stone Breakers, Roller Mills, Crushers, &c., &c., Runners.
4. Whole installation for Cement, Porcelain, Emery, Manure, Gypsum, Bone, & Ore Mills.

HYDRAULIC PRESSES. LEAD PIPE PRESSES. COMBINED COFFEE GRINDING AND CLEANSING MILLS. ROLLS FOR ALL METALS. CRANES. RAILWAY MATERIAL.

CATALOGUES IN ALL LANGUAGES.

SOLE AGENT: **W. STAMM, 3, EAST INDIA AVENUE, E.C.**

WATCH THIS ADVERTISEMENT EVERY OTHER WEEK.



These SIGNAL BELLS are the BEST and consequently CHEAPEST in the market.

All sizes from 4 in. to 12 in. for all purposes.

All Fittings steel. No perceptible wear after years of work. Simple neat and good. Thoroughly reliable.

Prices and particulars—

PARKIN, LIVERSEDGE, YORKSHIRE.

SOLE AGENTS FOR SCOTLAND:

Messrs. ARCHD. BAIRD and SON,

59-61, WATERLOO STREET, GLASGOW.

Export Agent—Mr. STEPHEN HUMBLE, Junr.

Emerson Street, Southwark, S.E.

NEGRETTI AND ZAMBRA'S,

SURVEYING & MINING INSTRUMENTS.

Theodolites, Levels, Circumferenters, Miners' Dials, Compasses, Drawing Instruments, Levelling Staves, Barometers, Thermometers, Air Meters, Binocular Telescopes, &c., &c.

ILLUSTRATED PRICE LISTS AND ESTIMATES POST FREE TO ALL PARTS OF THE WORLD.

NEGRETTI & ZAMBRA,

Scientific Instrument Makers to Her Majesty the Queen and British and Foreign Governments.

38, HOLBORN VIADUCT.

BRANCHES: 45, Cornhill, and 122 Regent Street, London.

NORTH QUEENSLAND REGISTER

THE LEADING NORTH QUEENSLAND WEEKLY.

PUBLISHED AT CHARTERS TOWERS, NORTH QUEENSLAND.

MINING A SPECIALITY.

Subscription £1 4s. per annum; including postage to Great Britain £1 5s. per annum.

Address communications to—

THE NORTHERN MINER PRINTING AND PUBLISHING COMPANY, CHARTERS TOWERS, QUEENSLAND.

For **PURE ALUMINIUM**

98 to 99½ per cent. (98 per cent. minimum guaranteed) in

INGOTS, STICKS, & ROLLING SLABS;

ALSO FOR

SHEETS, &c., AND FERRO-ALUMINIUM.

ALUMINIUM.

APPLY TO

HENRY R. MERTON & CO.,

2, Metal Exchange Buildings, Leadenhall Avenue,

LONDON, E.C.

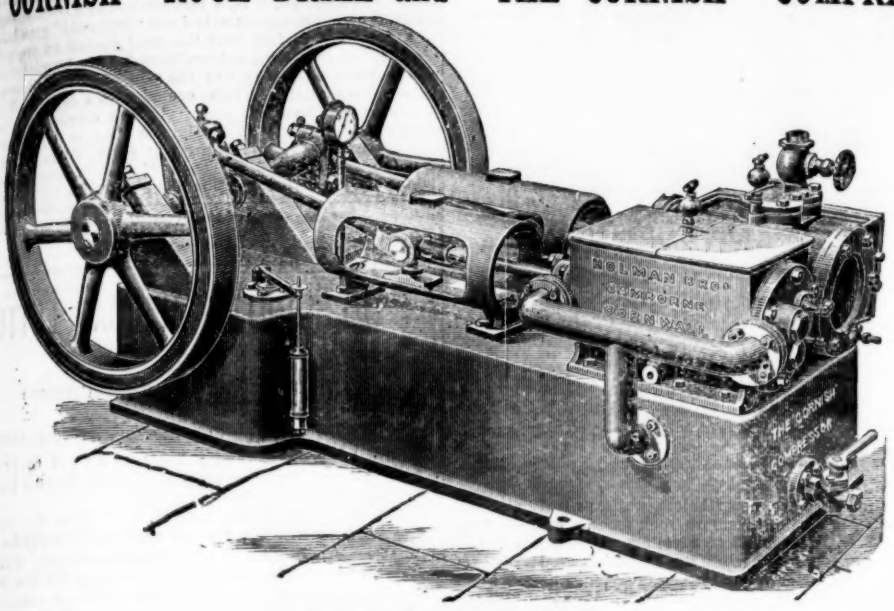
AGENTS FOR THE BRITISH ALUMINIUM COMPANY, LIMITED.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839.

Patentees and Sole Makers of

"THE CORNISH" ROCK DRILL and "THE CORNISH" COMPRESSOR.



RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS,** equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **6 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES,** and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

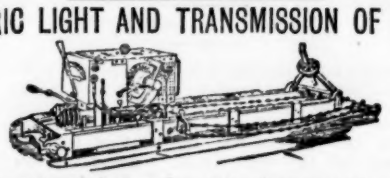
Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

JOHN DAVIS & SON,

ALL SAINTS WORKS, DERBY;
118, NEWGATE STREET, LONDON, E.C.
CARDIFF, JOHANNESBURG, CALCUTTA.

ELECTRIC LIGHT AND TRANSMISSION OF POWER.

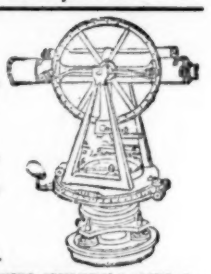


Jeffrey Machines for Undercutting Coal,
WORKED EITHER BY COMPRESSED AIR OR ELECTRICITY.
OVER 600 IN DAILY USE.

ELECTRIC
BLASTING APPARATUS.
HIGH OR LOW TENSION
EXPLODERS
CABLES, FUSES.

Electric Signals
and
Telephones.

MINING AND
SURVEYING INSTRUMENTS,
THEODOLITES, HEDLEY
DIALS, LEVELS,
CLINOMETERS.



MINERS' SAFETY LAMPS.
ALL PARTS INTERCHANGEABLE.

CATALOGUES UPON APPLICATION.

SEC. A. MATHEMATICAL & MINING INSTRUMENTS, MINERS' LAMPS, &c
SEC. B. ELECTRICAL PLANT AND STORES.

THE STAFFORDSHIRE ADVERTISER.
ESTABLISHED 1795.
The Principal County Paper in the Midlands.

Advertisers will find it the BEST MEDIUM for reaching superior class of readers over large area centred by Staffordshire fifth county in population and sixth in wealth

Published at Stafford every SATURDAY (Price Twopence), and to be obtained at Euston and Principal Bookstalls between London Liverpool, and Manchester

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Ore Reduction Co. (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS,

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

NB—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 5, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

17019 Henry Richardson and Lancelot Perry Keene, 198, Ochil Road, Handsworth, Birmingham.—Improvements in rotary engines.

18376 Edward Gascoigne Waddell and John George Chamberlain, 23, Southampton Buildings, Chancery Lane, London.—Improvements in self-detaching hooks for shafts cages.

17020 William Henry Middleton, 322, High Holborn, London.—Improvements in and relating to explosion engines.

19375 Elizabeth Barnston Parnell, Albert Smith, and Charles Edwin Monkhouse, 111, Hatton Garden, London.—Improvements in or relating to the treatment of ores and in apparatus therefor.

17022 William Phillips Thompson, 322, High Holborn, London.—Safety devices for steam boilers.

18388 Daniel Rudd, 23, Southampton Buildings, Chancery Lane, London.—Improvements in explosion engines.

17021 William Deeble Ferguson, Albert Villa, Ravenhill Road, Belfast.—Improvements in valve gears for steam engines or the like.

17380 James Higham, 35, Barton Road, Stretford, Manchester.—Improvements in steam engine valves.

17 07 James Wynn, 17, St. Anne's Square, Manchester.—Improvements in connection with smoke-consuming apparatus for steam boilers.

17079 John Ellington Chaster, 78, Elderfield Road, Lower Clapton, London.—Improvements in extracting gold and platinum from ores or substances containing same.

17018 Frederick George Myers, 45, Southampton Buildings, Chancery Lane, London.—Improvements in machines for cutting and sharpening rock and like drills.

EXTRACT FROM A LECTURE ON "FOODS," BY DR. ANDREW WILSON.—"The consumption of cocoa happily increases year by year. I say 'happily,' because, as tea and coffee are not foods, while cocoa is a true food, any increase in the national nutrition means an increase in the national prosperity. Winter, besides, is close upon us, and I advise those who are susceptible to colds to fortify themselves against chill by attention to their food. The easiest way of affecting this end for many is to substitute cocoa (Epps's being the most nutritious) for tea and coffee."

THE GERMAN COKE TRADE.—Up to the end of August last the Westphalian Coke Syndicate had disposed of 510,000 tons more coke than during the corresponding period of last year. No restriction is now being imposed on the rate of production, and it is announced that the whole of the output during the first half of next year is already disposed of. In fact, several contracts have been placed, the delivery extending over the second half of 1897.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Hauraki Consols (Limited).—Registered October 22 by Shepheards, 31 and 32, Finsbury-circus, E.C. (capital £150,000, in £1 shares), to adopt an agreement with W. Weir, and to acquire, develop, turn to account, deal with and work mines, mining rights and metalliferous land, &c., and to carry on the business of a mining and metallurgical company in all or any of its branches; to buy ores or metalliferous substances, and to crush and treat the same for a royalty or a percentage of the metal extracted, or for a fixed sum per ton or otherwise. Registered office, 6 and 7, Grocers' Hall-court.

Canadian Pioneer Syndicate (Limited).—Registered October 21 (capital £11,550, in £1 shares, 11,300 preference and 250 deferred). Objects: To acquire, explore, open and work claims or mines, and to raise, dig and quarry for gold, silver, minerals, &c., in Canada or elsewhere.

Mount Murchison Gold Mines (Limited).—Registered October 23 by Julius and Thomas, 15, Finsbury-circus, E.C. (capital £1 0,000, in £1 shares), to acquire, deal with and turn to account any mines, mining rights, metalliferous lands, rail and tram roads, furnaces, quartz crushing machinery, &c., in West Australia or elsewhere. Registered office, 65, New Broad-street, E.C.

COAL IN KENT.—On Friday, the 23rd inst., an interesting ceremony to place at the Kent Coal Field Works, near Dover, when Mr. Francis Brady, engineer of the South-Eastern Railway Company, started the second colliery shaft, which is about 200 feet to the east of the first pit. The works are now extending very rapidly, nearly 100 new sinkers and others being employed. The No. 1 pit reached a depth of 360 feet last week, when the work was stopped, owing to water finding its way into the pit. This has led to some interesting tests. It has been found that the water found its way through the loose stratum from the old experimental borehole sunk by Mr. Brady for over 2000 feet, and that the flow came from below. The temporary gear at the mouth of the pit is now being replaced by more powerful and permanent machinery, and as soon as this is completed and a pump fixed, the sinking at No. 1 pit will be continued. Mr. Brady expects to reach the first coal by the end of next spring.

COKE MAKING IN NOVA SCOTIA.—The first of the series of by-product coke oven plants which it is proposed to build on the seaboard will shortly be in operation at Halifax, Nova Scotia, where the company is organised under the name of the People's Heat and Light Company. The ovens are of the Otto-Hoffman type, and the company has arranged to furnish both fuel and illuminating gas to the city of Halifax, in addition to manufacturing coke and saving the ammonia sulphate and other by-products. At this plant, of course, Cape Breton coal will be used.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Fans and Motors. November 9 (*Glasgow*).—For the construction and erection of fans and motors for the new sanitary chambers, Cochrane Street, Glasgow, for the Corporation of the City of Glasgow (Police Department). Specifications and forms of tender may be had, and drawings seen on application at the office of Mr. William Arnot, electrical engineer of the Corporation, 75, Waterloo Street, Glasgow.

Railways, November 11 (*Friern Barnet*).—For supply of about 660 feet run of vertical tubular bar railing and a pair of iron gates, delivered carriage paid to New Southgate Station, Great Northern Railway, for the Friern Barnet Urban District Council. Further particulars may be obtained of Mr. E. J. Reynolds, C.E., the Council's surveyor. Sealed tenders, addressed to Mr. E. Goodship, clerk, Council Chambers, Beaconsfield-road, Friern Barnet, marked "Fencing," to be delivered by November 11.

Stores. November 11 and 14 (*Brussels*).—For a large quantity of stores, for the Ministry of War and Marine, and for the Belgian State Railways. Particulars at the Brussels Bourse.

Pump. November 14 (*Lisnaskea*).—For providing and erecting a pump in the town of Lisnaskea, for the guardians, in accordance with a specification, which can be seen on application to Mr. J. O'R. Hoey, clerk. Tenders, giving the names and addresses of two solvent sureties, addressed to the Presiding Chairman, Board of Guardians, Lisnaskea Union, and endorsed "Tender for Pump," will be received by post, or in the Workhouse letter-box up to 12 (noon) on November 14.

Coal. November 19 (*Bristol*).—For the supply of anthracite coal to the schools under their control for one year from December 1, for the Bristol School Board. Quality must be equal to that of the best Swansea anthracite. Forms of tender, which must be returned not later than noon on 19th inst., will be sent on receipt of a stamped addressed envelope. Apply to Mr. William Avery Adams, clerk, Guildhall, Bristol.

Coal. November 19 (*Bristol*).—For the supply of coal raised from the Bristol coal fields, to the schools during 12 months from December 1, for the Bristol School Board. Tenders, on forms to be obtained from Mr. William Avery Adams, clerk, Guildhall, Bristol, must be delivered at the office by noon on 19th inst.

Sinking Pits (*Glasgow*).—For sinking one pit, from splint coal seam to Lower Drumgray; one pit from Virgin to Lower Drumgray; and one pit from surface to splint. For particulars apply to the Bankneck Coal Company (Limited), 58, Bath Street, Glasgow.

Traction Engine (*Berwick*).—For new traction engine, suitable for hauling 6 ton loads at speed of about 3 miles an hour; also offers of second-hand for similar work. Address Messrs. H. O. Short and Son, Roller Flour Mills, Berwick.

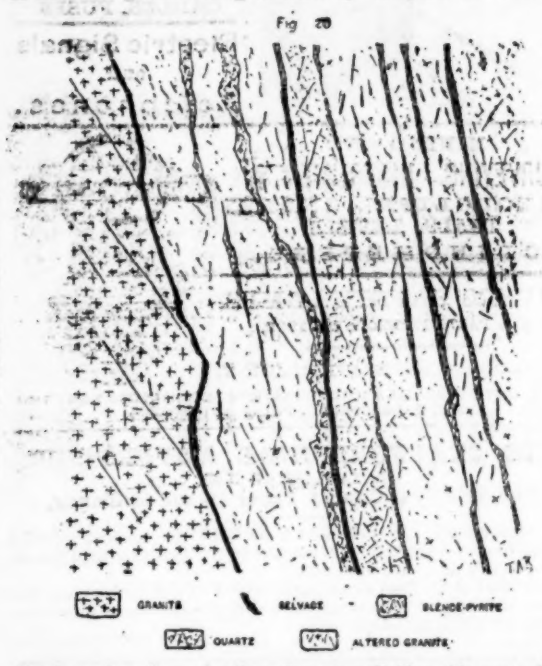
VEIN WALLS.*

By T. A. RICKARD, Denver, Colorado.

(*Continued from page* 1376).

THE generous lodes of silver-bearing copper ore which at Butte, Montana, penetrate the granite, are frequently marked by a brecciation of the encasing country, and are accompanied by mineralisation of the granite far beyond the walls or limits of workable ore. In the 300 feet level of the Gagnon Mine, 374 feet west of the main shaft, a crosscut shows that the lode channel extends 30 feet north of the supposed footwall, the enclosed granite being broken and mineralised. Beyond this line the country ceases to be shattered, and is no longer impregnated with ore, but is comparatively fresh, hard, normal granite, with a blocky fracture. This outer footwall of the lode channel is marked by the occurrence of some ore streaks and an accompaniment of seams of clay, as is shown in Fig. 20 (drawn September 15, 1895). The footwall country has a noticeable number of slips or joint planes. It is separated from the lode channel by a thick layer of tough black clay. Then comes a zone of kaolinised granitic filling traversed by irregular veins of zinc

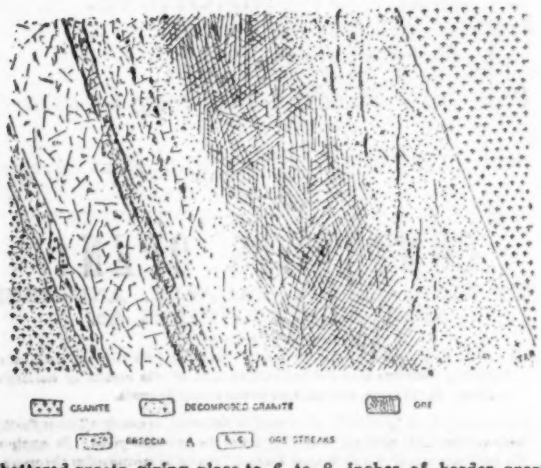
Fig. 20



blende and pyrite. Another clay seam divides this part of the section from a band of mixed white quartz and granitic filling, followed by altered mineralised granite, ribboned with veins of grey quartz whose southern limit is a third seam of black clay. Then comes crushed, brecciated granite, diversified by quartz and occasional evidences of ore, which extends to the main pay view (on the hanging) which has been the workable part of the deposit, These tion in the figure represents a width of 6 feet.

Fig. 21 came from the east breast of the 1300 feet level, in the same mine. It is a representative section of the main ore-bearing vein. Granite, visibly altered, marks the northern edge of the section, which is the footwall. Upon it lie a few inches of breccia succeeded by 8 inches of blende, pyrite, and enargite, well intermingled. Then come 3 feet of friable mineralised light gray

Fig. 21



shattered quartz, giving place to 6 to 8 inches of harder quartz streaked with veinlets of chalcopyrite and bornite, Upon this lies a foot of altered granite traversed by streaks of quartz. Then 18 inches of low grade ore, consisting of quartz, pyrite, blende, and a little bornite, separated from the main pay streak by 6 inches of granitic filling. The main pay streak is from 5½ to 6 feet wide, and consists of a massive mixture of pyrite, blende, enargite, and bornite, carrying about 60 per cent of silica. Between this and the hanging wall there are 2 or 3 feet of decomposed broken granite showing small veins of ore which drop into the main pay streak. Beyond is granite.

In mines of this character the geologist may determine the existence of the lode far beyond the limits of workable ore ; but the miner will rightly distinguish between what is mineralised† country too poor to exploit, and the concentrated mineral which will yield a profit.

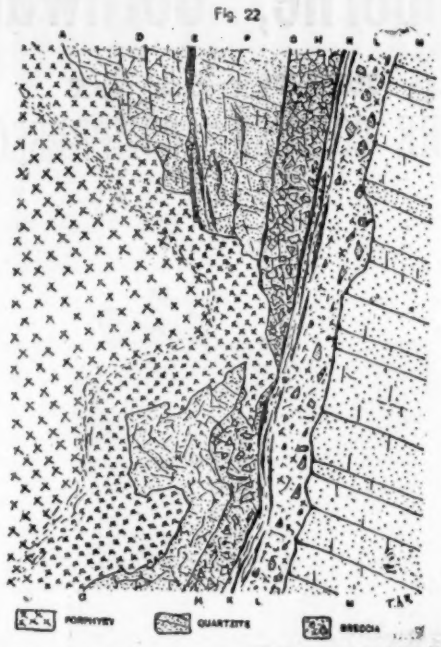
That straight walls are not the necessary adjuncts of a vein of ore is suggested in Fig. 22, which represents the breast (on September 26, 1895) of the hanging wall drift on the upper level of the Double Extension Mine, in Summit County, Colorado. The lode formation consists of gently sloping quartzite, cut across and broken into by porphyry, which as a dyke forms the main vein, and in the shape of sheets, intercalated among the beds of quartzite, makes a succession of floors of gold-bearing ore of widely varying hardness. In the particular section illustrated, the intrusive porphyry forms the hanging wall, A B C, of a zone of ore which is limited on its lower side by the ragged edges of the quartzite, M M. In this instance the conventional straight walls give place to one of extreme and

* A Paper read before the American Institute of Mining Engineers.

† The term "mineralised," like the word "mineral," is employed by miners in a sense not sanctioned by the ordinary dictionary, though fully entitled by its general usage to such recognition. Dr. Raymond's *Glossary of Mining and Metallurgical Terms* gives this sense as follows:—"*Mineral.* In miners' parlance, ore, . . . *Mineralized.* Charged or impregnated with metalliferous mineral." The French use *minerai* and *mineralliser* in this sense ; and I have adopted it because no English equivalent occurs to me.

irregular curvature, and another of a markedly broken and

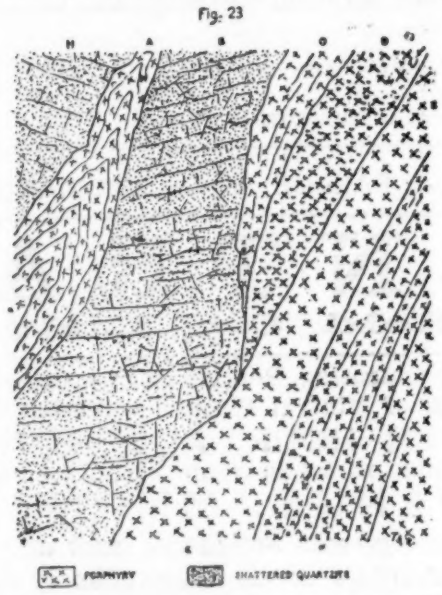
Fig. 22



jagged outline, but they are, nevertheless, walls, as truly as would be the most perfectly straight, smooth rock faces. The porphyry, A C, a quartz felsite, is bleached to a yellow white, and softened to a granular clay as it approaches its contact with the broken quartzite, D D. The latter is dark bluish-gray, and carries along its joints and other fractures minute seams of iron-stained ocherous clay, which is gold-bearing. E E and G G are veins of such gold bearing ochre. F F is crushed quartzite, very similar to D D. The band of quartzite breccia, H H, is separated from an equally wide band of porphyry quartzite breccia, L L, by a succession of thin parallel quartz seams, K K. Then comes the footwall itself. At N, under the projecting curve of the porphyry of the hanging, there is a mass of much-shattered quartzite mixed with iron-stained quartz. This is all gold-bearing.

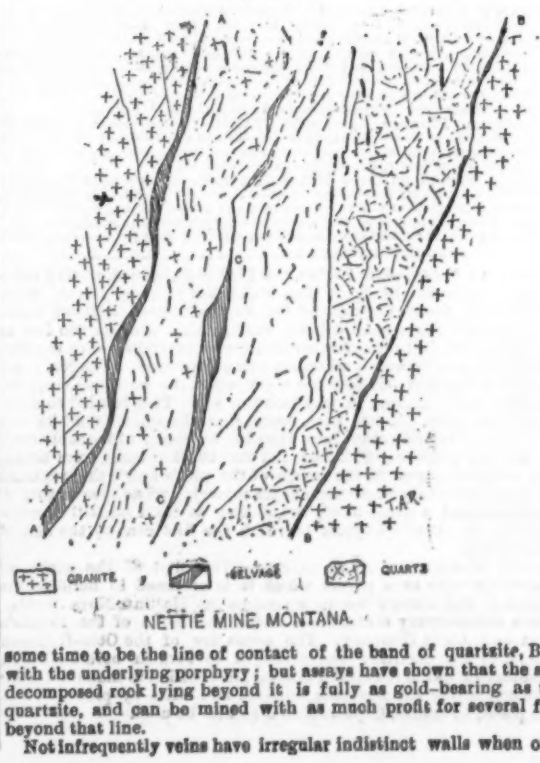
Fig. 23, representing the western edge of a "cutting out stope," near the supposed footwall of the lode (as seen September 23, 1895) exhibits a somewhat similar complication and another curved

Fig. 23



"wall." To the extreme left is fractured quartzite, carrying iron-stained clay along the faces of fractures, and divided into two parts, H H and B B, by a narrow zone, A A, of soft yellow porphyry, whose curved lines of alteration are marked by streaks of gold-bearing ochre. The remainder of the section is all porphyritic material, of which C C is similar to A A; D D is a wedge of comparatively fresh rock, but slightly kaolinised and full of pyrite, and E E and F F are layers of brown and reddish soft talcose porphyry and clay, separated by numerous slips or smooth partings forming "false walls." The "main footwall" was supposed for

Fig. 24.



NETTIE MINE, MONTANA.

some time to be the line of contact of the band of quartzite, B B, with the underlying porphyry ; but assays have shown that the soft decomposed rock lying beyond it is fully as gold-bearing as the quartzite, and can be mined with as much profit for several feet beyond that line.

Not infrequently veins have irregular indistinct walls when ore-bearing, and smooth, clearly defined ones when barren. Fig. 24 illustrates the face (as seen September 15, 1895) of the west drift of the 430 feet level on the middle vein in the Nettie Mine, near Butte City, Montana. The south country is a fairly hard, reddish granite, which, in approaching the hanging, becomes soft, and is traversed by slips or joints. On the hanging wall itself, A A, there is a seam of tough black clay, in which can be seen frequent films of minutely crystalline blende and galena, and small imbedded shots of ore and rock. This overlies a filling of white decomposed granitic material, full of partings and seams of black clay, such as C C. The footwall, B B, is also marked by a black selvage. Underneath it comes comparatively fresh "blue-bird" granite.

A few feet farther east this level carried an ore body, A B, in Fig. 24, being the zone so transformed. The brecciated quartz upon sides of the drift are now coated with a delicate efflorescence of goslarite (sulphate of zinc). In this connection it may be of interest to state that in the Gagnon Mine, at Butte, 3 miles away, the apparently clean country, at some distance from the lode, was found* to carry 3 per cent. of zinc, indicating the extent to which the mineralising action had penetrated.

* According to Mr. C. W. Goodale, the manager.

(*To be continued.*)

OUR SOUTH AFRICAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

JOHANNESBURG, OCTOBER 12.

THE wire has certainly reported to you the particulars of the big jumping case, which had its final phases in the Landrost Courts.

That this matter is settled, and that the jumpers got little for their trouble, no one will be able to say for some time but it is certain that the "Venture Syndicate," as it was styled most appropriately, got off very cheaply for the present, and may prove very expensive to some parties at a later period.

The £10 shares of the "Venture" were once at a premium I was told that £400 were offered for a half-share, and the offer was rejected.

Nobody felt inclined to think that Colonel Ferreira went lightly to work, and he must have acted under some special reasons and objects whose chief points have not yet been elucidated.

That some of these jumping cases had a very good result for the new pegger must be admitted, and amongst the others this Bantjes case is worth mentioning. Here about 25 claims were pegged right in the centre of that company's ground. The new holders went on afterwards, paying their monthly licences quite regularly until they got "bezitrecht" granted to them. According then to Article 112 of the Gold Law, their title to the property is irreconcilable. How will and how can the Bantjes get rid of such a central neighbour? I am afraid, contrary to the assertion of the Chairman, there is only one way opened to them, to buy out the new peggers, who this time have got the best of it.

In another case a company was holding and not paying upon certain two and a half claims, which in consequence fell into the hands of certain enterprising people, who came to terms with the company, and got handsomely rewarded for their trouble.

It is to be hoped that "jumping" will not become a fashionable sport; and to prevent this the companies had better have their holdings re-surveyed, so as to be prepared for all emergencies with a full conscience of their rights.

Mr. Schmitz Dumont, the Acting State Mining Engineer, has completed a geological survey from the Vaal River to Pretoria, and he came to the conclusion that the main reef formation at the Rand fails in the deep levels where other reefs are to be found. He considers the basin theory quite erroneous, and that the banket beds are only residues of former rivers.

I have no time now to follow him in all his details and considerations in support of his theory, but so long as the diamond drill will strike a reef at a certain calculated depth, so long the promises till now splendidly kept by the deep levels will be maintained, we do not need any more theories. We have the facts; and if on the scientific point of view the geological survey of a country may interest a part of the community, the everyday expression of new theories may render investors uncertain in their dealings, and all together may prove detrimental to the influx of capital, and to the development of the natural resources of the country.

We have to hand the returns of the September gold output, which has been declared to be 202,561 ounces, or about 10,000 ounces less than in August. This was expected, and several causes were assigned for it. However, we may expect that by the end of the year the output will reach 250,000 ounces, owing to the contribution of several mines, which by that time will be ready for operation.

The position of the gold industry has never been so good. It is, therefore, impossible to understand the cause of the great depression that hangs over the African Share Market.

THE LIQUATION OF GOLD ALLOYS.—The new processes of extracting gold which have been developed in the Transvaal have caused certain alloys of this metal to assume an industrial importance hitherto unknown. The ingots, as received in this country, contain considerable percentages of zinc and lead. The presence of these metals has, as appears from a communication to the Royal Society from Mr. E. Matthey, given rise to unexpected difficulties in estimating the content of pure gold. Thus the average of four assays of samples taken from the top of an 8 lb. ingot showed a gold content of 602 parts per 1000, whilst similar assays from the bottom of the ingot showed only 439 parts of gold per 1000. In another case no less than 10 assays were made which showed a gold content varying from 653·5 to 332·5 parts per 1000, the average of all trials being 576·2 parts per 1000. By dissolving the whole mass of metal in *aqua regia* it was found that the true content was 614 parts of gold per 1000, the difference being, therefore, considerable. When assays were made of drillings from holes bored quite through the ingot, the results overestimated the gold present, so that the difficulties in the way of a reliable assay are serious. By examining alloys of pure gold with known quantities of the base metals, it was found that in lead alloys the gold tended to accumulate towards the centre, at the expense of the exterior. With zinc alone the same tendency was manifest, but to a much less marked degree. With zinc and lead both present, the gold concentrated in the interior of the lower portion of the ingot, the exterior and upper portions being poor in the noble metal. When these two metals did not constitute more than 30 per cent. of the whole, Mr. Matthey found that a uniform alloy could be obtained by adding 20 per cent. of silver.

GOLD MINING IN THE DECCAN.—The Indian mails bring good accounts of the Woondalli Gold Mines in the Raichore district. Under the supervision of Mr. Lowinsky, who has just been on a short visit to this country, the erection of machinery for quartz crushing, buildings, &c., has proceeded apace. The results of the crushings show a high average of gold to the ton, and it is expected that the output will soon equal that of the best Mysore mines.

THE WEST AUSTRALIAN MINING INDUSTRY.

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

MR. VAN OSS has knocked the bottom out of the Westralian gold fields! The country has none of the necessaries of life, no labour, no transport, no fuel, no water, and no gold—beneath the surface. Of the £75,000,000 capital (nominal) invested, £60,000,000 have gone to the rapacious company promoter, and the remaining £15,000,000 are rapidly disappearing beneath the thirsty sands of Westralia. Are matters really so bad? An enquiry addressed to some 20 Westralian mining companies, selected haphazard, with a request for copies of their prospectuses, crushing and dividend returns, &c., elicited some information in point. Unfortunately, with two exceptions, the prospectuses, "mendacious and designed to mislead," Mr. Van Oss styles the lot, were out of print. It is, therefore, impossible to compare actualities with prospectus predictions. But if the *Nineteenth Century* critic be right, the misled shareholders have legal redress, and there is likely to be a rough time in view for Westralian directors. It is not, however, necessary to attribute wilful deception to what is undoubtedly true that Australian mining prospectuses in the past have contained statements far too sanguine. In part this is doubtless due to the custom of the trade, and the public allow for heavy discounts. In part, however, the fault lies with the technical inexperience of too many directing boards. The fact is, mining companies appear to be sublimely indifferent to technical qualifications in their directorate, and in this enjoy an unique but not enviable position. For what engineering company, and mining is eminently of this nature, or what company with any special line of business would dream of entrusting the management of its business to tyros in the trade? As long as mining companies do not unite on their boards a proportion of directors with sound knowledge of mining, not finance, business, so long will there be an unnecessary danger of misleading statements in prospectuses, followed by mistakes in administration, and an undue proportion of failures. It would seem by no means unwise that shareholders should be made acquainted with the professional qualifications of their directors, and deeming these insufficient should, at the first statutory meeting, have the power to substitute their own representatives.

How far the original statements made differ from verified facts, the absence of the prospectus precludes us from saying. But that the actual crushings are lower, probably much lower, than anticipated, is certain. It is equally certain that a further fall in grade is likely to ensue with deeper working. So far, however, this fall does not appear fully established. Mr. Van Oss takes it for granted, and drags in Dr. Schmeisser to emphasize the unreliable nature of the strata and its patchy and pockety character. To those familiar with gold mining, there is nothing unexpected in what to Mr. Van Oss spells disaster. Below we give a tabular statement of such crushings as we have been able to get together.

Name of Company.	Date, 1896.	Crushings. Tons.	Smelted Gold per ton.	Shares.	Dividends.	Remarks.
Lady Shenton	To July 9 ..	55	4 18 ozs.	Fully paid.	None.	Nominal capital £160,000. Issued, £146,000.
	„ August 11.	250	2·15 ozs.			
	„ August 12..	10	13·16 ozs.			
	„ Sept. 3 ..	237	4 ozs.			
	„ October 1 .	262	4 14 ozs.			
	„ October 29	300	4·21 ozs.			
Mainland Consols (Limited) ..	„ June ..	—	8500 ozs. in all	Fully paid.	None.	Nominal capital £150,000. Issued, all.
	„ July ..	275	4·9 ozs.			
	„ August 10	295	4·16 ozs.			
	„ September.	359	3·15 ozs.			
	„ October ..	207	4·8 ozs.			
Ejudina Gold Mines (Limited ..	„ Sept. 8 ..	150	19 dwts.	Fully paid.	None.	Nominal capital £100,000. Issued, all.
	„ Sept. 15 ..	48	2·35 ozs.			
90 Mile Proprietary	„ June ..	153	1·11 ozs.	Fully paid.	None.	Nominal capital £180,000. Issued, £180,000. Estimated value of ore in prospectus, ½ to 3 ozs.
	„ July ..	80	1 oz.			
	„ August ..	130	0.18 ozs.			
Manies G. R. Proprietary ..	To June ..	325	2·5 ozs.	Fully paid.	Interim dividend of 2s. per share July 15, 1896.	Nominal capital £175,000. Issued, £170,986.
	„ July 1 ..	120	2 ozs.			
	„ July 13 ..	210	1·19 ozs.			
	„ July 29 ..	210	1·19 ozs.			
	„ Sept. 3 ..	476	1·5 ozs.			
	„ October 7..	372	1·2 ozs.			
Hannan's Brownhill	To June ..	209	3·8 ozs.	Fully paid.	None.	Nominal capital £75,000. Issued, all.
	„ July 23 ..	119	2·6 ozs.			
	„ August 31..	206	3 ozs.			
	„ Sept. 14 ..	214	3·18 ozs.			
	„ October 31	254	2·7 ozs.			
Abbott's Gold Mine (Limited) ..	To June ..	20	6·1 ozs.	Liability of 1s. per share.	None.	Nominal capital £100,000. Issued, all.
	„ Sept. 3 ..	186	0·16 ozs.			
Golconda Gold Mines (Limited)..	To June ..	2,585	2·6 ozs.	Liability of 2/6 per share.	None.	Reconstructed Jan. 23, 1896 Nominal capital £100,000. Issued, all.
	„ August 1..	415	2·6 ozs.			
Kinsella Gold Mines (Limited) ..	To June ..	3,109	10 dwts.	Liability of 1s. per share.	None.	Reconstructed early in 1896. Nominal capital £100,000. Issued, £76,540.
	„ July 3 ..	800	9 dwts.			
	„ August 5..	725	8 dwts.			
	„ Sept. 7 ..	850	6 dwts.			
	„ October 10	600	9 dwts.			
Coolgardie Mint and King..	To June ..	365	3·8 dwts.	Fully paid.	None.	Nominal capital £150,000. Issued, £145,000.
	„ August 4..	100	2·4 dwts.			
	„ Sept. 7 ..	78	2·6 dwts.			
	„ Sept. 25 ..	30	3·16 dwts.			
Consolidated Murchison	To June ..	22,194	13 dwts.	Fully paid.	None.	Nominal capital £250,000. Issued, £225,533.
	„ July 31 ..	1,008	14 dwts.			
	„ August 31	1,042	9 dwts.			
	„ Sept. 25 ..	940	8 dwts.			
	„ October 9	505	8 dwts.			
	„ October 23	509	7 dwts.			
Cue 1 Gold Mine (Limited) ..	To June ..	780	1·6 ozs.	Fully paid.	None.	Nominal capital £100,000. Issued, all.
	„ August 5..	240	1 oz.			
	„ August 25	300	1·9 oz.			
	„ September	270	1·3 oz.			
	„ October ..	290	1·2 oz.			
Bayley's Reward Company ..	To June ..	9,369	5·16 ozs.	Fully paid.	£126,000 paid in dividends. None.	In course of amalgamation and reconstruction.
	„ August 30	291	2 ozs.			
Bayley's Reward No. 1	To June ..	3,627	1·4 oz.	Fully paid.		
	„ August 26	75	2 ozs.			
	„ Sept. 29 ..	70	2·16 ozs.			
	„ Oct. 16 ..	45	2·3 ozs.			
Hannan's North Company ..	To Aug. 6 ..	15	2·17 ozs.	Some fully, others 16s. paid.	None.	Registered Sept., 1895.
	„ Aug. 19 ..	30	2·11 ozs.			
	„ Sept. 17 ..	30	1·17 ozs.			
Big Blow	To June ..	210	7·30 dwts.	18s. 6d. paid.	None.	In reconstruction.
	„ July 5 ..	48	17·0 dwts.			
Ivanhoe Company	To June ..	2,284	1·16 ozs.	Fully paid.	2s. 6d. per share, Sept. 28, 1896.	Reconstructed. Nominal capital £50,000. Issued, all.
	„ July 11 ..	240	4·5 ozs.			
	„ Aug. 6 ..	210	6·15 ozs.			
	„ Aug. 31 ..	187	7·3 ozs.			
	„ Oct 3. ..	832	3·17 ozs.			
	„ Nov. 2 ..	230	4·8 ozs.			
Great Boulder Main Reef ..	To June ..	216	3·4 ozs	Fully paid.	None.	Predicted value of ore, 4 to 8 ozs. per ton.
	„ July 21 ..	117	2·18 ozs.			
	„ Aug. 20 ..	124	2·3 ozs.			
	„ Sept. 21 ..	205	2·3 ozs.			
	„ Oct. 5 ..	217	2·8 ozs.			
	„ Oct. 23 ..	193	2·1 ozs.			
North Boulder	To Oct. 2 ..	200	2 ozs.	Fully paid.	None.	Nominal capital £100,000. Issued, £95,000.
	„ Oct. 20 ..	95	2 ozs.			
	„ Nov. 2 ..	133	2·5 ozs.			
White Feather Reward	To June ..	1,840	2·16 ozs.			
	„ July ..	233	2·3 ozs.			
	„ August ..	237	1 79 ozs.			
	„ September	163	2 ozs.			
	„ October ..	150	1·99 ozs.			
Great Boulder Proprietary ..	To Dec. 31, '95	4,291	6·21 ozs.			
	„ Oct. 26, '96	20,903	3·3 ozs.			

With few exceptions, these returns, fairly typical of the better class of Westralian mines, do not show any signs of that fall in grade, which Mr. Van Oss describes as so fatally characteristic of West Australian reefs. Some lowering of grade, as already observed, is usual in all gold mining. But the causes are as frequently misconstrued. The upper level, weathered, oxidised, and partially decomposed ores are more easily crushed and milled, giving correspondingly higher battery results, with lower tailing losses. On the other hand, as the depth increases, the ore becomes harder, and sulphides appear. The stripping of the gangue from the precious metal is, therefore, more difficult; and, the baser metals interfering with the treatment, the gold returns fall, while the tailing losses rise. But Messrs. McDermott and Duffield, in a pamphlet on "Losses in Gold Amalgamation," call attention to another fact frequently overlooked. "It often happens," they say, "that in starting work on a mine with a small stamp mill, the yield per ton of ore is for a time satisfactory and up to calculation, because the mill can be supplied with ore from the best portions of the vein; but on adding a large mill the conditions are all changed. The mine must then be worked regularly and systematically, and the large consumption of rock by the mill makes it impossible to pick out the ground as before, consequently the yield per ton runs down at once. This simple explanation of lower yield is often kept out of sight by specious assertions as to largo loss in tailings."

To quote an instance, the Robinson Mine, in Africa, produced about 4000 ounces of gold monthly with 10 stamps, but when 30 more stamps were added, increasing fourfold the crushing capacity, the yield of gold was only 8000 ounces. In other words, the grade of the ore dropped 50 per cent. The Great Boulder Proprietary affords a similar instance.

While, therefore, we do not think that Mr. Van Oss has yet sufficient reason to decry the continuity of the grade, we do think that he has ample reason to complain of insufficient working capital. It is clear from the deficiency of dividend-paying companies, even with fairly high crushings, and from the early appearance of reconstructions, that the working and other expenses are phenomenally heavy, and that, consequently, the capital of most companies is likely to give out before the gold fields as a group can be placed in a position to one day return with interest the capital invested. The lugubrious prophecies in the *Nineteenth Century* would lead us to suppose the advent of such a day was a chimera, and that the 731 West Australian mines were doomed to perish, a testimony to rash speculation. Without a doubt the situation is gloomy, and present shareholders are likely to lose heavily on their investments. But the darkness may be that preceding dawn. It is a fact that the water difficulty is on the road to removal, rapid railway extension is reducing the cost of living, of labour, and of transport, the rapacious promoter is being taught to expect less, and company administrators are gaining useful experience. All these changes may herald the dawn of more auspicious days. Then the investor, premature and foolhardy, and with a rashness without which Westralian gold fields would yet be a desert land, may look for some return on his investment, in reconstructed, better capitalised, and better managed companies. The prudent mining speculator will neither be led astray by the sanguine dreams of Mr. Stoneham, nor the dismal forebodings of Mr. Van Oss, but realise that gold mining all the world over is practically the same, many blanks and few prizes, and those to be won only by knowledge, prudence, and perseverance.

TIN TICKETING.

THE fortnightly ticketing for tin ores was held at Tabb's Hotel, Redruth, on Tuesday. Results:—

VALUES OF ORES SOLD BY EACH MINE.

Mines	Tons	cwts.	Per ton. £	s.	d.	Value. £	s.	d.
Dolcoath No. 1	14	0	37	2	6	519	15	0
do No. 1a	14	0	37	7	6	523	5	0
do No. 1b	12	0	37	12	6	451	10	0
Wheal Grenville a	16	0	39	0	0	624	0	0
do b	13	0	39	5	0	510	5	0
do No. 2	5	0	23	12	6	118	2	6
Basset Mines (Ltd.) No. 1	11	0	39	17	6	438	12	6
do No. 1a	11	0	40	2	6	441	7	6
Carn Brea and Tincroft Mines (Limited) 1a	9	0	35	12	6	320	12	6
do No. 2	8	0	35	5	0	282	0	0
West Kitty	1	0	26	12	6	26	12	6
East Pool No. 1	14	0	39	5	0	549	10	0
do No. 2	13	0	25	17	6	336	7	6
Killifreth	1	0	10	2	6	10	2	6
Wheal Kitty	12	0	36	0	0	432	0	0
Phœnix United No. 1	10	0	39	10	0	395	0	0
do No. 2	8	0	37	7	6	299	0	0
Hexworthy	2	0	28	15	0	57	10	0
	4	0	40	2	6	160	10	0
	178	0				£6496	2	6

AVERAGE PRICE PER TON, £36 9s. 11d.

AVERAGE PRICES PER TON.

September 8	£36 1 6	October 20	£35 17 6
September 22	35 11 6	November 3	36 9 11
October 6	34 9 7		

VALUE OF ORES PURCHASED BY EACH FIRM.

	Tons.		£	s.	d
Carvedras	30½		1140	7	6
Chyandour	44½		1676	15	0
Williams	25 5–6		993	8	9
Redruth	20½		776	1	3
Cornish	56½		1909	10	0
	178		£6496	2	6

ADVERTISING.—Manufacturers of machinery, who have kept on advertising while business is dull, will be the ones who will reap the earliest and richest harvest in orders whenever business begins to improve. The manufacturer who drops out of sight in the advertising mediums of his trade is soon so far forgotten that not one in ten among the men who are his probable customers will be able to locate him. In three months his name and place will be strange to half the men to whom he ought to cater. In six months he is a vague memory. In a year he is forgotten by all but a few former customers. During the year from 8000 to 10,000 changes have occurred in his field, and when he tries to re-enter he finds himself among strangers. He may have "saved" $100 or $600 by dropping out of sight for a year, but when he makes up his mind to come back to sight, he will have to spend many times all he has "saved" in advertising bills, in order to get back where he was when he made up his mind that he "could not afford to advertise." While he is reacquainting himself with former patrons and acquainting himself with the thousands of new comers in the field, his competitors, who have remained in sight through constant advertising, will be taking in all the orders that are given.—*American Exchange.*

MAYFLOWER GOLD MINE.—We are informed that Mr. Charles Gordon Duncan, of Glasgow, has been appointed general manager for this company, and left Plymouth on Saturday last for West Australia.

THE Bamboo Queen and Reward Mines (Limited), of 38, Coleman-street, London, E.C., has placed an order with Fraser and Chalmers (Limited) for two mining plants, consisting of hauling and pumping machinery, driven by two "Campbell" oil engines, with complete sets of starting apparatus. This plant is to be fixed at their mines at Bamboo Creek, in the Pilbarra gold fields district.

The BALAGHAT-MYSORE MINE (LIMITED) has sold the gold obtained during the month of September last, which realised £652 14s. 6d.

The directors of the ROBINSON SOUTH AFRICAN BANKING COMPANY (LIMITED) have declared a final dividend of 5 per cent. for the year ending September 30 on ordinary shares, which, with the interim dividend of 5 per cent. paid in April last, makes a total dividend for the year of 10 per cent.

MINING IN VICTORIA.

GEOLOGICAL SOCIETY OF AUSTRALASIA.

(FROM OUR VICTORIAN CORRESPONDENT.)

THE PRESIDENT'S ADDRESS.

At the adjourned annual meeting of the Geological Society of Australasia, held this week in Melbourne, the President, Mr. James Stirling, Assistant Government Geologist of Victoria (and the elected Mines Commissioner to London), delivered his inaugural address, in which he dwelt at considerable length upon geology and its relation to mining in Victoria. There was a large attendance of members, as well as visitors and representatives of scientific and mining institutions.

Mr. STIRLING observed that when they realised that since 1851 the value of the gold won from the alluvial deposits and quartz reefs of Victoria amounted to £242,395,916, representing 60,598,979 ounces of gold; that other minerals had realised £1,089,140, and also that the Gippsland coal fields had produced since 1892 over 715,072 tons of coal, valued at £429,008, or a total value of £243,914,064 of realised wealth, it would not be difficult to understand how potent a factor our mineral wealth had been in promoting industries and settling people on the land. The widespread occurrence of gold in various matrices, as in granite dykes at Mount Wills, where it has been observed both in the felspar and quartz of the granite rocks as seen in the Anaconda Mine, and in the sandstone dykes on the Victorian Mount Morgan field, at Greytown, and in the Pyrenees, to which attention had been drawn by one of the Vice-Presidents, Mr. E. M. Cairnes, F.G.S., in slates at Marong, near Bendigo, in schists at various localities, and in various kinds of diorite dykes in different parts of the colony, indicated the importance to practical mining of having the geological formations in which these auriferous matrices occur defined. To Mr. A. W. Howitt (late Secretary for Mines Department) geologists were deeply indebted for his unequalled research into the structure of the igneous and metamorphic rocks of Victoria. His conclusions as to the origin, mode of formation, composition, and structure of those rocks, were of the greatest importance to the mining industry, because they showed that there was a connection between the metamorphism of the sedimentary formation and the formation of auriferous lodes. In the Swift's Creek district the auriferous lode formations were found to be connected with the contact action of the intrusive plutonic rocks. Mr. Howitt's labours will only be rightly appreciated when the full force of his work is better known. In his notes on the igneous dykes of North Gippsland, it was shown that various dykes of quartz porphyrite and syenite porphyry, associated with contact lodes containing gold, were found at or near the contact of a large intrusive mass of quartz diorite with sedimentary formations, and referred to as not younger than Middle Devonian. Referring to the underground surveys carried on at Bendigo, Mr. Stirling stated that the samples of rocks examined, taken from depths commencing at 270 feet from the surface, to a point 3136 feet beneath comprised lavas, shales, sandstones, and quartz lodes. The lava was found to correspond with the lemburgite of Rosenbusch, and was probably injected during the period of the basaltic tertiary volcanoes of Victoria. The experiments recently conducted by him in connection with subterranean temperatures in Lansell's No. 180 Mine at Bendigo disclosed the fact the temperature rose 1° in 125 feet in depth. The temperature was taken of the rock mass itself by means of boreholes, as well as at various points in the workings, and the result of the observations was at variance with the commonly accepted belief that the temperature increased 1° in 50 feet. The experiments conducted on similar lines by Professor Agassiz in America gave the result of 1° increase in 200 feet. Referring to the Bendigo field generally, Mr. Stirling said Mr. E. J. Dunn had drawn attention to the distinctive form of reef occurring there, known as saddle reef. He described their modes of occurrence, probable origin, and method of the deposition of the gold in them. Prior to Mr. Dunn's work, a surface geological map of the district had been made by Mr. Murray, on which the positions of the different lines of reef were shown, and the alluvial workings, but the first to make an examination of the Bendigo reefs was Mr. Jacob Brache in 1857. As superintendent of geological and topographical surveys of the colony under Sir Arthur Selwyn, and for the information of the first gold fields Royal Commission, Mr. Brache was the first to map out this important field. They were honoured with his presence that evening; he was pleased to record that even to-day no expert's opinion on the Bendigo field stood higher than Mr. Brache's. Mr. William Nicholas, F.G.S., had also drawn attention in a series of articles in the London *Mining Journal* to the peculiar forms of quartz veins, with illustrations of same. These articles had since been published in book form, under the title of "The Golden Quartz Reefs of Australia." Messrs. Brown, Craven, Walker, and Thomas, by careful underground surveys, had paved the way for Mr. Dunn's important investigations. The Bendigo gold fields occupy an area of 140 square miles, 40 miles long, 77 miles wide, and the formation as lower silurian contained such characteristic fossils as graptolites and Kynunocaris in beds of slate. These silurian rocks were covered in one place by glacial conglomerates of either permiam or triassic age, and in others by old n pliocene gravels as at White Hills. The district is divided into three areas—the first, a highly auriferous area surrounding the City of Bendigo; the second, a much wider but less auriferous area surrounding this nucleus; and a third, a large area of Silurian rocks not auriferous at the surface. He did not think this subdivision could be maintained in the light of recent discoveries, although there was no doubt about the extreme richness of the central area. The most prominent feature of the Bendigo gold field was described as consisting of numerous more or less parallel axial lines, having a strike of N. 16° W., along the course of which the great mass of slate and sandstone rocks were bent over into a series of anticlinals, with corresponding synclinals or troughs between. The dip of the beds to the east and west was about 60°. It was suggested that vibratory movements, due in some way to the earth's rotation, had probably produced these remarkable folds. The axial lines or centre country did not continue horizontal for any distance, but had an end long dip or pitch. The process by which the Silurian beds of slates and sandstone attained their present position, and by which the quartz veins, fault lines, and associated slickensided surfaces were formed, was described as due to, first, a buckling of the strata, then corrugations, then slipping of the layers, &c., producing faults even after the saddle reefs were formed. Faulting took place along the line of which igneous dykes were erupted, known locally as lava streaks, but described by Mr. Howitt as limburgite. Reference was made to the production of cleavage lines in the strata, frequently mistaken for true bedding. To distinguish these cleavage lines great care is often necessary, as he knew from personal experience in connection with underground surveys. The saddle reefs themselves were described in detail as extending along the axis for miles, thickening and diminishing in size as they were traced along. The saddles were often 20 to 50 feet across, while the legs were from 3 to 4 feet, but frequently become attenuated in depth, although extending in some cases 300 feet or more below the saddles.

It was suggested that the quartz probably accumulated in the cavities from telluric waters holding silica in solution. In the 8 mile block embraced within the survey, it was stated that there are 12 distinct lines of reef 8 miles long, each of these lines carrying reefs one below the other, of probably remunerative character. He expressed regret that time would not permit him to do justice to Mr. Dunn's splendid monograph, with its excellent series of accompanying sections and illustrations, of the Bendigo gold field. Mr. Dunn's No. 2 monograph of the same field was now in course of publication; he had seen the manuscript. It gave further details of the structural, geological, and mining features of the field, with some beautiful heliotype views of saddle reefs. It would be published in the course of a few weeks, and distributed very freely in England and abroad. He would recommend its perusal as a monument of painstaking research, and of lasting value to geologists and mining engineers. Referring next in order to

Ballarat,

Mr. Stirling said, as each mining field has some important characteristics which distinguish it from others, it became necessary to have special examinations made of the leading features. Among these the underground survey of the Ballarat east portion of the Ballarat gold field, which was completed by Mr. Lidgey in 1893, disclosed several interesting features, the most noticeable of which is the occurrence of so-called "indicators." These indicators in Ballarat East usually consist of highly pyritised bands of carbonaceous slate, rarely more than 2 inches thick. Each of these have received distinctive names from the miners, and were known as the Indicator, Black Seam, Pencil Mark, Eastern Indicator, &c. The Indicator was a narrow bed of dark slate, usually showing cleavage planes, and containing a large percentage of pyrite distributed irregularly through it. The Pencil Mark, lying about 30 feet east of the Indicator, had the appearance of a dark mark made by a thick pencil on the lighter slate on which it was enclosed. The Black Seam, about 30 feet east of the Pencil Mark, was also a dark coloured slate, containing much pyrite, the crystals being usually larger than those found in either the Indicator or Pencil Mark. This band varied in thickness from a mere thread to about 2 inches. The distinctive features of these indicators was the effect they had on the auriferous character of the quartz veins with which they came in contact. The indicators were usually nearly vertical, being crossed and slightly faulted by a network of quartz veins, more or less horizontal. Where the quartz veins came in contact with the indicators, the gold is deposited often in heavy slugs, the remainder of the quartz not adjacent to the indicators being usually unpayable. Another interesting feature of Ballarat was the occurrence of a series of faults, both normal and reversed, the normal faults being older than the reversed ones, and faulted by the latter. A full description of the above features was given in a report issued by the Department of Mines in 1894 on the Ballarat east gold field. Mr. William Bradford, mines reporter on the *Ballarat Courier*, had also written a work on the "Indicator" occurrences in this and other adjacent gold fields. Attention was drawn to the zones or belts of auriferous strata in which these indicators were found. A topographical and geological plan, upon which were delineated all the surface features of the Ballarat gold field, had been previously made by Mr. Murray, the Government Geologist, and a number of underground surveys by Mr. Robert Allan, mining surveyor. Referring to the Steiglitz district, Mr. Stirling stated that Mr. Forbes had just completed an underground survey of that field. Mr. Forbes had shown that the reefs at Steiglitz follow well-defined lines of fracture in the strata, in some cases forming imperfect saddles, in others merely spurs. A commencement had been made of the underground survey at Walhalla. In that locality there was a belt of gold-bearing country extending from Walhalla northward through Gordon, Matlock, and Wood's Point, intersected by diorite dykes which it was desirable to map out at the earliest date. In regard to the coal districts of the colony, which embrace the following—viz., Korumburra, Jumbunna, Outtrim, Kilcunda, Cape Paterson, Mirboo, and the Bass Valley—Mr. Stirling said: That, although they had only recently been worked, their existence at Cape Paterson was noted as far back as 1825, before the discovery of gold took place. The coal formations throughout the Gippsland district were intersected by numerous volcanic dykes. An investigation showed there was a transition from fine to coarse-grained dykes and intrusive masses due to difference in evolving and to the influences of the adjacent strata. The fine-grained dykes passed from porphyritic basalt to the normal basalt type. The normal basaltic types merged into those of an ophitic structure, and these again pass into coarse dolerites, the latter becoming coarser and coarser in structure, until they were classed as gabbro. His conclusions concerning the felspar of the latter agreed with those expressed by Professor Judd on the tertiary basalts and dolerites of Iceland. It was also found that the tin-bearing gravels of the Toora River had their origin in the granites of Wilson's promontory, where stanniferous materials were found. Referring to the geological sketch map of Victoria, now being prepared by Mr. Everett, Chief Draughtsman of the Mines Department, a great drawback to the new map was the want of a correct topographical map of the colony as a basis. Mr. Skene's map, 8 miles to an inch, used for the 1881 map, now out of print, though excellent at the time it was issued, was now out of date and incorrect, more especially with regard to Gippsland and the eastern portion of the colony. Reviewing the various metallurgic processes for the treatment of auriferous ores, Mr. Stirling said that at the School of Mines, Bairnsdale, it was decided to use closed vats in chlorinating the concentrates, so as to resemble more closely Plattner's original system. A partly chloridising, and partly leaching treatment with hyposulphite, may with advantage be applied to treat the chlorides and dry silver ores of the north and north-eastern districts of Victoria. Experiments with bromo-cyanide had met with a certain amount of success. At the North Gippsland School of Mines an educational reduction plant had been erected. In treating auriferous slimes, the pulp from the "coffer" is conveyed over several appliances to a pyramidal box separating the coarse material from the slimes. The coarse sand is volumetrically sized and passed over vanners, while the slimes were classified on the law of equal falling bodies in a series of pyramidal boxes (Spitzkasten), and delivered into a common buddle, or on to a Luhrig vanner. In closing his address, he urged scientists and practical miners to earnestly devote their attention to this branch of mining, in order to minimise the enormous loss of gold which takes place annually.

The meeting passed a hearty vote of thanks to Mr. Stirling, and various speakers made reference to his proposed mission to England, stating that the Government had acted wisely in selecting Mr. Stirling to bring the mineral resources of the colony under the notice of English capitalists.

His Mission to England.

Mr. STIRLING, in responding, said he had a grave sense of the responsibility attached to his mission. He would keep before him the fact that he was to proceed to England as the accredited representative of the Government, not to bolster up any particular mining company, but to lay before English investors a simple statement of facts. He would represent that the stability of the mining industry was assured, because from a depth of over 3000 feet at Bendigo, to the highest summit of the Australian Alps, gold-bearing strata occurred, and gold had been found. He would direct attention to the characteristics of various formations of lodes, to the enormous extent of undeveloped alluvial deep leads, and to some of the results of the indomitable energy and perseverance of Victoria in developing their own resources. He would at the same time explain that in order to sink deep in the mines of the colony, and to drain the auriferous leads, extensive machinery was required, necessitating the investment of a large amount of capital. He hoped to obtain the confidence of moneyed men by conveying his ideas in the simplest language.

At a meeting of the council held prior to the general meeting formal letters of introduction from the society to kindred associations and leading scientists in Europe were given to Mr. Stirling and also to Mr. F. E. Harris, a member of the council, and author of the series of articles on "The Wild West Coast of Tasmania," which appeared in *The Mining Journal* a few weeks back, who leaves for England on important business by the same steamer.

During the week a preliminary meeting was held, when a large and influential committee was elected, composed of representatives from both Houses of Parliament, the Chambers of Commerce and Manufactures, the Stock Exchange, the mining Press, scientific societies, and leading residents on the various gold and coal fields throughout Victoria to make arrangements for a gathering to suitably recognise Mr. Stirling's departure. The council of the Geological Society initiated the movement, and are the executive body in the affair.

MINING IN NEW ZEALAND.

THE MONTH'S WORK.

(FROM OUR OWN CORRESPONDENT.)

THAMES, SEPTEMBER 30.

VERY rapid strides have been made during the past month in the advancement of the mining industry throughout the whole of our gold fields, and at no previous period have the general prospects of the whole field been so bright and encouraging.

At every centre of mining a busy state of affairs prevails, and during the month several distinguished mining experts arrived here from England on a general tour of inspection to different parts of our gold fields. Amongst them I happen to notice a Mr. St. Auburn and his assistant, Mr. Dudgeon. The former gentleman has acquired a wide experience in all classes of mining in different parts of the globe, and comes here to inspect several properties recently floated on the English market. The properties in question are situated in the Waitekauri district, and are known as the Central and Waitekauri Union respectively. Both are peg and peg with the celebrated Waitekauri Gold Mining Company, and should embrace the north and south trend of the famous Golden Cross reef. The Central is situated on the south, and the Waitekauri Union on the north-east. They are both undeveloped areas, but have several outcrops of large lodes which, when developed, may prove to be equally as rich as that met with in the Waitekauri Company's ground.

In addition to the above recent cablegrams from London announce that the holiday season is on, and it has been the means of having a quietening effect on our local markets. Still, there is every confidence of a reaction sitting in about the end of October and the month of November.

We also learn that very satisfactory progress is being made in England with the flotation of several important mines, which if supplied with the required capital must eventually give payable results. I refer to the Puru Consolidated, May Queen, Monowai, Broken Hills, May Queen Extended, and others; all of these have a bright future before them.

Besides the introduction of foreign capital into our midst a large number of new companies have been formed locally, for the purpose of taking over and developing new mining areas that have been recently acquired in different parts of the gold field, so it is quite apparent that local investors not only have faith in the present prospects and future of the industry, but they are also contributing largely in providing the necessary capital to proceed with the developments of the new discoveries that have come to light lately.

The desire for obtaining new ground for mining purposes is still steadily going on. In the Thames district alone the amount of money deposited for new ground and other requirements in connection with mining during this month reached a total sum of £4018 19s. 6d. It will be seen by that, that the demand for properties is very keen. No doubt the majority of these will prove valueless; still the possibilities of unearthing something of importance is great indeed, for by the acquirement of these lands, it means the outlay of capital for their respective developments, and there is no telling where rich deposits may be found.

Operations in the different mines in the various centres have been assiduously carried on, and the work performed has, in all the principal mining properties, been conducted on an extensive scale. A large extent of exploring work is being carried on by the Bewick Moreing Company, in the Whangamata, Puriri, Komata, Tapu, and Coromandel districts. In each of these centres they have acquired the option for flotation, but are following a very wise course in thoroughly prospecting the various lodes and determining their respective values before they launch out on lines of greater magnitude. The Anglo-Continental Company have also adopted similar lines, but do not care to go in for developments. They rely more upon the scientific knowledge of their engineers. Cooper's and Peter's Companies are conducting extensive developments in the Puru district. There they have a splendid group of mines 478 acres in extent. So far the results met with are of a highly gratifying character. Some ore taken from their reef, known as the Rimu lode, shows strong coarse gold well impregnated in the heart of the reef. This lode shows gold for a total length of 300 feet, and judging by the prospects met with, there is every reason to believe that they have secured one of the plums on this peninsula. I might mention that the same company are intersecting another large master lode, estimated to be close upon 100 feet in diameter. In the event of this master ore body proving to be worth 20s. to 30s. per ton, the company have ample water rights to drive 200 head of stamps if necessary, and with such large lodes the mine should eventually become one of the leading ones on this gold field.

The bullion return for the past month from the Waihi Gold Mining Company surpasses any previous return from this celebrated mine, and I am sure it must be very gratifying to shareholders to know that they have such an excellent manager to look after their interests. I refer to Mr. H. P. Bury, the con-

pany's superintendent, whom I might say has proved himself a thorough general. Of course, his heavy duties are greatly relieved by his most able and trustworthy mine captain, Mr. Thomas Gilmour. This gentleman's wide practical experience enables him to exercise great skill and judgment in the execution of his duties, and with such a valuable assistant, combined with keen management on the part of Mr. Barry, they are achieving a success far beyond expectations. During the four weeks ending the 19th inst. the mill treated 2820 tons of general ore for the handsome yield of bullion worth £12,048. The average number of stamps at work during that period was 85. Last month £9800 worth of bullion was obtained from 2900 tons of ore, in addition to which £1000 worth of bullion was retained in the new zincs that were substituted for the old. This has now been recovered.

During the preceding four weeks 2970 tons yielded £9821 worth of bullion. During the present year £93,996 worth of bullion has been won, while from 1890 to date the yield has been no less than £448,709 since the year 1890, and during that period 135,623 tons of ore were treated.

The Waihi Silverton are not getting on as well as they should, owing to unexplained drawbacks in the general working of the mine; this will, however, be overcome, and the management are of the opinion that improvement will be in evidence henceforward.

The Waihi Consolidated Company are pushing on with their sinking, and the shaft at the present time is passing through more solid quartz than has been the case for some time past. Assays from here are now in course of treatment, but the results are not yet to hand. Loose ore found in the vicinity of the supposed strike of the famous Martha reef produced, when subject to assay test, a yield of bullion worth over £4 per ton. Of course, it means time for the company to be able to push on with and extend their developments to the Martha reef, which should strike through the full extent of their property, but so far the work accomplished is a credit to the management.

Regarding the Waitekauri district, the next important on this peninsula, I might mention that the Waitekauri Company have not received the best of treatment at the hands of our road winter, and I learn that they have suffered considerable damage one way and another in consequence of this; it has been the means of hampering the general progress.

As there is a good deal of interest evinced in the developments in hand in the Waitekauri Cross Company's ground, it might be interesting to shareholders to know that the extension of the crosscuts is being vigorously pushed ahead, otherwise there is nothing of importance to chronicle.

Good works are in hand in the Waitekauri United Company's mine, and the results so far met with are highly gratifying.

There is no change in the various mines in the Komata and Karangahake districts that calls for special mention. Active development work in the mines and the erection of the necessary reduction plants are being vigorously proceeded with.

At Thames proper, the Thames Hauraki Company are pushing on with their shaft sinking, and good headway is being made. The May Queen Company are conducting a series of exploring works, which should open up payable sections of country. The May Queen Extended Company are opening a large lode 12 feet in diameter, in which colours of free gold can be seen. This discovery was made recently, and the mine is now considered one of the most valuable in this centre. The Monarch Gold are about to erect 60 new stamps. This work has been entrusted to that well known firm of ironfounders, Price Bros., who have a large foundry in the centre of the Thames.

The Tararu Mines Company are also pushing on with their developments, and the results met with are very satisfactory.

At Coromandel there is no change to chronicle. The same remark applies to Kuaotunu.

In the Kennedy Bay district a large extent of auriferous land is being taken up for mining, and it is expected that in the near future this extreme north section of this peninsula will prove equal to anything equally as productive as any other part of the field.

There is nothing fresh to report from the Kauri Gold Estates Company. They are carrying on a large amount of exploiting work, from which they anticipate good results.

By this outgoing mail steamer Mr. H. J. Greenslade, editor of the *Thames Evening Star*, takes his departure for England. His visit is more for a holiday than anything else, and his tour will probably extend over 18 months. Mr. Greenslade has had 16 years experience on this gold field, and has gleaned a thorough knowledge of the whole peninsula, being closely connected with the industry, and has always taken a keen interest in it from the very commencement of his career as a journalist. He is accompanied by Mrs. Greenslade, and it is hoped that they will both enjoy their trip.

Just as I am closing, the manager of the Puru Consolidated Gold Mining Company wires that they met the downward continuation of the run of gold from the No. 1 level. The reef is fully 8 feet thick, and shows gold very freely. Some of the pieces selected, which I saw, were worth fully 2 ounces to 1 lb. of ore. This mine is going to be one of the finest specs as yet acquired for British capitalists. Mr. J. J. Cooper, who has taken over the property, left about September 10 for England, to negotiate for the working capital and formation of the company to take over the property.

The Tararu Mines Company's return, just to hand, cannot be considered otherwise than highly satisfactory. The cyanide treatment of the tailings is also a great success, and an enlargement of that section of the reduction works will be proceeded with at once.

Gold Returns.

Waihi Gold Mining Company, 2820 tons, value £12,048.
Lilias Claim (Waikoromiko, Coromandel), 2 tons, value £337.
Waiotahi (Thames), 192 tons, 205 ounces 6 dwts., value £567.
Victoria (Thames), 115 loads, 264 ounces, value £752 13s. 8d.
Orlando, 7 loads, 4 ounces 7 dwts., value £12.
Darwin, 1 load, 16 ounces 8 dwts., value £43.
May Queen, 67 loads, 80 ounces gold, £214 17s. 3d.
Monetaires Gold, 430 tons ore, 88 ounces 10 dwts., value £91 18s.
Tararu Mines Company, 407 tons quartz, 260 tons tailings, (cyanide) produced 766 ounces, total value £820 17s. 10d.
Nonparell Company crushed 20 loads, 8 ounces 17 dwts., value £24.
Waihi Silverton, 672 tons, 565 ounces, value £1171, per ton £3 2s. 6d.
New Zealand Talisman, 285 tons, bullion value £1461, per ton £5 2s. 6d.
New Zealand Crown Mines, 580 tons, value £2000.
Hauraki Gold Mining Company, 412 tons, 2039 ounces 14 dwts., value £6119 2s.

ASCERTAINING FURNACE TEMPERATURES.—A peculiar system of ascertaining furnace temperatures in a simple and fairly accurate manner has been suggested by Professor J. Wiborgh, of the Royal Mining Academy, Stockholm. A suitable explosive is completely enclosed in a cylinder of clay, which is placed in the furnace of which the temperature is to be measured. The time which elapses before the explosive fires is then a measure of the temperature, which is read from a set of tables specially prepared for the purpose.

MEETINGS OF MINING COMPANIES.

RUSHEN MINING COMPANY.

In pursuance of Section 125 of the Companies Act, 1865, a general meeting of the members of the above-named company was held at the liquidator's office, Athol-street, Douglas, on October 26, for the purpose of having an account laid before them showing the manner in which the winding up has been conducted and the property disposed of, and of hearing any explanation that might be given by the liquidator. The notice was signed by Mr. W. E. Young, the liquidator. The chair was taken by Mr. WALTER J. BROWN, and amongst others present were Mr. W. H. Boyde, Mr. F. Browne, and Mr. W. E. Young.

The notice having been read,

The CHAIRMAN called upon the liquidator to read his report and statement of accounts, which was as follows:—

Report of the liquidator to be placed before the final meeting of the members of the above-named company:—The liquidator has to report that the resolution to wind-up the company was passed on August 24, 1893. Steps were immediately taken to realise the property of the company, which at that time was looked upon as a property that was very valuable. It was deemed advisable to at first try and dispose of the property by tender, and the 19th day of September, 1893, was fixed as the day upon which to open the tenders. The property was well advertised, but no offer was made. The mines were then advertised, and offered for sale by public auction. The sale was arranged to take place on October 10, 1893, but, owing to the decline in the price of lead and blende, no bid could be elicited. The liquidator next attempted to dispose of the property by private treaty, and had the concern advertised in the principal mining papers for a considerable time, and for the better inspection of the mines by intending speculators kept the mine pumped free of water. The price of metal, however, continuing to decline, the liquidator was quite unable to get an offer for the property as a whole, so then had the pitwork left secure, and ceased pumping operations. Seeing that the value of the property lay in keeping the same intact, no endeavour was made to dispose of the property piecemeal, as such a course would have been highly disastrous to the creditors; and in order to strengthen his hands and ascertain the wishes of the creditors and the directors (as representing the shareholders), the liquidator called meetings of those parties from time to time during the liquidation, whereupon it was decided, in the interests of all concerned, to nurse the property for a while, or until such time as a suitable offer could be obtained. Arrangements were made accordingly, and the office of Woods and Forests, through the Crown Receiver, in order to assist in keeping the property intact, granted a most liberal reduction in the amount of dead rent, payable under the Crown lease. This, together with other arrangements, enabled the liquidator to hold the property for nearly three years, during the latter part of which time negotiations were being carried on with a syndicate, which, after numerous interviews between the syndicate, the principal creditors and the liquidator, ultimately resulted in an offer of £2850 being made for the property. This offer was placed before a meeting of the creditors, specially called, and also before a meeting of the directors, and each meeting recommended the liquidator to accept the offer. The liquidator, being of opinion that this was the best that could be done under the circumstances, accepted the offer accordingly. This sum, together with the amount realised by dressing up the ores on hand, &c., enabled the liquidator, after paying all liquidation expenses and preferential charges (including a large sum due for royalty, which had to be paid at once by the liquidator, in order to preserve the Crown lease) to declare a dividend of 16s. 3d. in the £ to the ordinary creditors of the company. The liquidator has also to report that he was met most reasonably by the land owners and tenants, whose ground had been taken from time to time for the requirements of the mines, they agreeing to accept, on the allowed amounts of their respective claims, the same rate of dividend in the £ as the ordinary creditors.

W. E. YOUNG, liquidator.

The account of William Edwin Young, the liquidator appointed on the 24th day of August, 1893, showing the manner in which the winding-up has been conducted, and the property of the company disposed of.

RECEIPTS.					
Book debts realised	£ 127	1	4		
Sales of lead and blende ores (dressed during liquidation	409	6	8		
Sundry other sales	135	8	6		
Amount realised for unexpired Crown lease, machinery plant, and effects	2850	0	0		
	£3521	16	6		
Bank interest	34	3	6		
				£3556	0 0
Total				£3556	0 0
PAYMENTS.					
Expenses incurred in carrying on the business for the beneficial winding-up of the company... ... ... £	91	18	8		
Expenses incurred in protecting the assets, holding the Crown lease, and keeping the property in repair	117	17	10		
Expenses of liquidation, including legal charges	84	10	10		
Liquidator's remuneration for three years, including remuneration for carrying on the business	300	0	0 =	£ 627	7 4
Creditors.					
Preferential creditors' claims allowed at £342 3s. 6d. paid in full ...	342	3	6		
Land claims (damages) allowed at £321 14s. 7d., settled at 16s. 3d. in the £	261	8	1		
Ditto allowed at £186 7s. for special settlement	186	7	0		
Ordinary creditors' claims allowed at £2603 17s. 7d. dividend (first, final) on same at 16s. 3d. in the £ ...	2115	13	3 =	£2905	11 10
				£3532	19 2
Balance reserved to meet final closing expenses of liquidation				23	0 10
Total				£3556	0 0

The LIQUIDATOR added that the principal creditors and the late directors had been consulted before the sale was effected, and as to the remuneration. The great difficulty had been to maintain the property so as to keep the lease alive.

On the motion of Mr. F. BROWNE, seconded by Mr. BOYDE, the accounts were passed.

The CHAIRMAN then moved that the best thanks of the proprietors be given to Mr. Young, the liquidator, for the business-like manner in which he had realised the effects of the concern and conducted a very difficult work to a successful conclusion. Though the shareholders would have no return, they had the satisfaction of knowing that the creditors' interests had been very carefully conserved.

Mr. F. BROWNE, in seconding the motion, said that Mr. Young in this case had shown like ability to that displayed in the winding up of the Marina, for which work he was praised by a learned judge who did not often confer praise upon anyone, and that was the Clerk of the Rolls. (Hear, hear.)

The motion was unanimously agreed to, and the proceedings ended.

BIG GOLDEN QUARRY MINING COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Big Golden Quarry (Limited) was held at Winchester House, E.C., on Tuesday, Mr. H. M. C. EVERS (Chairman of the company) presiding.

The SECRETARY (Mr. F. L. Bamford) read the notice convening the meeting.

The CHAIRMAN, after dwelling upon the late management of the company and of the reasons which led to the new directors taking office, spoke of the successful efforts of the latter to obtain another property, and said: We think, gentlemen, our efforts have been crowned with success. The old saying, "That where there is a will there is a way," has been, we believe, true in our case, and we think we have succeeded in placing this company upon properties which, if the shareholders are prepared, together with us, to make a little sacrifice of money, will recoup us for our past losses. I say recoup for us our past losses, and in saying that I believe we are strictly moderate, because the probability is that we shall do considerably better. I honestly and truly believe that the company will become one of the foremost in the Barberton district of the Transvaal. It is not an extravagant or chimerical expectation, for it is not the first time that mining and exploration business properly, honestly, and intelligently conducted has brought great wealth to those possessed of enterprise and discretion. I could mention many instances, but it is sufficient if I say that the properties of all the most successful mines, whose value is capitalised at millions of pounds were originally acquired at a trifling cost. I can say this of practically all the mines on the Rand, and anyone who knows the original prices given for such mines as the Robinson, Simmer and Jack, Wemmer, Randfontein, &c., will bear me out in what I say. When Mr. Robinson acquired the land on which the now famous Robinson Mine stands and paid £10,000 for it, his friends declared him to be a lunatic; the Robinson Mine now capitalises at something like £5,000,000. In our district the Sheba Mine tells a similar tale; the shares of the original company went, if I remember rightly, to £100 per share. There is, therefore, as I have shown, nothing incredible or extravagant in the hope I have ventured to express, that our company will likewise flourish. The properties we have selected have been chosen with such care as I would not consider necessary if I had had to make the investment for my own account. We have looked and searched and tested over and over again, and there is present every condition of genuineness in every property we have acquired. I may say that this company now is the absolute two-thirds possessor of 240 claims, situated on a magnificent formation, giving excellent results, a good show of fine gold, that it is also working 144 claims between the Woodstock and Albion—two of the best mines in the Barberton district, and that we are sinking one shaft upon a reef there over 3 feet wide, giving about 15 dwts. to the ton, and that we are working a further property of 72 claims, upon which the indications have been tested over and over again with the same favourable results, giving up to 2 ounces per ton, and when, after making all payments for this and the Colorado property, there remains a working capital of about £20,000, and a most precious asset in the shape of £27,000 worth of reserve shares, which I hope we shall place at a price considerably over par when the time comes. I say, then, that the company really and truly has a fair chance of retrieving its fortunes. It remains for the shareholders now to say whether we have been faithful to the trust reposed in us, and if they find we have been so—if they find that we have done well with the little means which were entrusted to our care—then I say they may fairly suppose that we shall be faithful and successful with the larger means which they will place in our hands. Gentlemen, after these remarks I beg to put—or rather I would prefer some shareholder would put—the first resolution, which, being personal to myself, it is obviously not decorous for me to dilate upon.

Mr. DEWEY moved:—"That this company do pay to its Chairman the sum of 600 guineas by way of extra remuneration in recompense for the special service rendered, disbursements made, and expenses incurred by him to and on behalf of the company." In remunerating Mr. Evers in the manner suggested by the resolution, they would only be doing an act of justice in recouping him for the expense to which he had been put.

Mr. VAN PRAAGH seconded the resolution, remarking that the expenses in connection with an undertaking of this kind were tremendous, and only those who had to deal with such matters could appreciate them sufficiently. There were the cost of postages, printing, the amount of time, money expenses, legal and otherwise, to say nothing of travelling expenses to France and Germany, where so many of their shareholders resided, and the cost of meetings there. They were practically voting a return of monies expended by Mr. Evers.

Mr. WEST supported the motion, but he thought they should have had some statement of accounts.

A SHAREHOLDER asked what remuneration was allowed the directors by the articles.

Mr. VAN PRAAGH replied that £250 was allowed the Chairman and £150 each director. This, proposal, however, was for work which had nothing to do with directorate.

Mr. TAMAR inquired if they were to have any statement of accounts showing how the funds at the disposal of the board had been paid.

The CHAIRMAN replied that, roughly speaking, they received from the old board £6000, and they had to pay out of that £400 for expenses, which had been incurred by their predecessors; and they also left a legacy of about £700 to pay. They had now in hand about £2000, so they could see the new directors had not spent very much, considering they had expended £1000 in payment on the Colorado property, which also was not an acquisition of theirs. They had to do it in order not to lose money already spent thereon.

The resolution was then carried, with one dissentient.

The CHAIRMAN then proposed "That it is desirable to reconstruct the company, and accordingly that this company be wound up voluntarily, and that Henry Mathias Clement Evers, of Warnford-court, in the City of London, Esq., be and he is hereby appointed liquidator for the purposes of such winding up."

Mr. J. KELIHER seconded the resolution.

In answer to a SHAREHOLDER, the CHAIRMAN said that, as liquidator, he did not ask for any fee. There was not much to liquidate.

The motion was agreed to.

The CHAIRMAN next moved—"That the liquidator be and he is hereby authorised to consent to the registration of a new company, to be named The Big Golden Quarry (Limited), with Memorandum and Articles of Association, which have already prepared with the privity and approval of the directors." Having, he said, studied the Articles of other companies, and found it very general that directors should be paid according to results, they had accordingly adopted that method. They proposed to participate to the extent of 10 per cent. of the net profits.

Mr. KELIHER seconded the resolution, and it was carried.

The CHAIRMAN also moved—"That the following scheme of reconstruction be and the same is hereby approved, namely:—A new company to be formed with a capital of £100,000, divided into 1,000,000 shares of 2s. each, of which 626,880, numbered 1 to 626,880, shall have 1s. per share treated as paid up. The directors of this company to be the directors of the new company. All the undertaking, property, assets, liabilities and rights of action of this company to be made over and transferred to the new company, under Section 161 of the Companies Acts, 1862, the transfer to be in consideration of:—1. The said 626,880 shares credited with 1s paid up on each share, a proper agreement being executed and filed before the issue of such shares. 2. The new company undertaking all the debts and liabilities of this company. 3. The new company paying the costs and expenses of and incidental to the winding up and dissolution of this company, the transfer of its property and the carrying this scheme into effect. Every member of this company complying with the conditions hereinafter contained shall in

respect of each fully paid share held by him in this company be entitled to receive either by transfer or by nomination and allotment one of the said 626,880 shares in the new company, and the new company shall for this purpose allot such shares to such persons as the liquidators shall direct. The conditions are as follows:—Every member desiring such shares shall within 14 days after the date of a notice which shall be sent to the members in accordance with this company's regulations (and in this respect time shall be of the essence of the arrangement) give notice of his desire to the liquidator or to his agent, and shall at the same time transmit to the liquidator or to his agent for and on behalf of the new company an application for such shares addressed in the prescribed form to the new company, together with a remittance of 1½d. per share, and in default of such notice application and remittance as aforesaid by any member within the prescribed period, such member shall be deemed to have absolutely waived and abandoned any right to exchange his shares in this company for shares in the new company, and any right whatever to such new shares in respect of his holding in this company. A further 1½d. per share shall be payable on allotment or transfer to such member of the shares; a further 3d. per share on January 31, 1897, and a further 6d. per share on June 30, 1897. Every member applying as above shall, if required, produce his certificate for shares in this company, and shall give the same up in exchange for the new company's certificate when ready." He said some French shareholders had asked him to put before the meeting an amendment to the following effect: They wished reconstruction to be voluntary, not compulsory, and their plan was this—that every shareholder should receive for every four shares one fully paid-up share in the new company, but, on the other hand, he should have the right to apply for three shares in the new company, which three shares should be only 8d. paid up, with 1s. 4d. to be called up, but that he should not be compelled to subscribe that 1s. 4d. He told those friends that he could not personally range himself on the side of their proposal, but they very kindly reposed so much confidence in him that, though he said he would vote against it, they yet gave him their proxies, taking his word that if the proposal was brought forward their proxies should be used in favour of it. In his opinion, if reconstruction were voluntary, and everybody could pay up when and what he liked, it would be no reconstruction; and it was perfectly clear an arrangement on those grounds would not produce £5000 to their company—not sufficient money to pay even for the Colorado property, much less to provide a working capital.

The French proposal finding no favour with the meeting, the original resolution was agreed to unanimously.

The CHAIRMAN then proposed—"That the draft agreement embodying the reconstruction scheme, and expressed to be made between this company and its liquidator of the one part, and the new company of the other part, and now submitted to this meeting be, and the same is hereby approved, and that the liquidator be and he is hereby authorised, pursuant to Section 161 of the Companies Act, 1862, and by virtue of all other powers (if any) enabling him on that behalf to enter into an agreement with such new company when incorporated in the terms of the said draft, and to carry the said agreement into effect, with such (if any) modifications as he may think expedient."

Mr. BUTLER seconded the motion.

The agreement having been read by Mr. VAN PRAAGH, the resolution was carried.

A vote of thanks to the Chairman and directors concluded the meeting.

ANTIOQUIA (FRONTINO) COMPANY, LIMITED.

An ordinary general meeting of shareholders in the Antioquia (Frontino) Company (Limited) was held on Wednesday last at the offices, 184, Gresham House, Old Broad-street, E.C., Mr. RICHARD DONAGAN, Chairman of the company, presiding.

The SECRETARY (Mr. J. Jameson Truran) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We have again deferred this meeting until a somewhat later period of the year, in the hope that we might have some decisive and satisfactory news to communicate, but I regret to add that the delay has not led to any decisive results, as the advices received still continue to contain no very encouraging features. The accounts which we present to you to-day for the year ending December 31 last are better than those submitted on the last occasion, inasmuch as there is a little more gold produced, and a little less cost incurred, so that there was a trifling profit realised instead of a loss as shown in the previous year; but there our favourable news stops, for the transactions of the current year so far have not been so promising as those of which I was able to speak on the last occasion, and, moreover, another year has elapsed without the great object in view having been obtained. You are aware that the sheet anchor on which this company depends for future prosperity is to open up the main or Carmen lode in depth—that work with that object has been carried on below the adit as far as hand pumps would suffice, and that, having no other power available, to drain by water power is the only resource. Well, we have the water outside in amply sufficient quantity, and it can be easily tapped at the right altitude for the purpose, and that at a very convenient, and, indeed, at a very short distance, and we have the water wheel ready to erect, and the pumps ready to be put up for the water wheel to work. But, unfortunately, between the stream which we intend to tap to create the power and the spot where the water wheel must work, there is a considerable space of dilapidated and, indeed, ruinous and dangerous old workings, through which the water must be carried. That has been the difficulty, and years have been consumed in endeavouring to overcome it. It has for some time been very near completion, and we have flattered ourselves that a few weeks, or at most months, would see it accomplished; but something has intervened—chiefly falls of stone and earth from the unstable ground above, and this year we had the "unkindest cut of all" in the shape of a slight shock of earthquake, which brought down a large quantity of attle and debris that has to be cleared away. Mr. White has done all he could, and has secured a great portion of the injured places, and in his last dispatch, dated August last, he says:—"We have only to secure 7 fathoms (42 feet) more to have all arranged for the water, which will come along." And again:—"The whole of the whole workings are secured except this 7 fathoms, and the road is clear for laying the troughs." He adds:—"The securing of this 7 fathoms will take us perhaps a month, working from both ends." When the directors' report was prepared we anticipated receiving before this meeting a further dispatch dated a month later, but, although we had our usual letter from Messrs. Restrepo at Medellin, the advices from the mines have not arrived. You will see, however, that according to all appearances we are nearer now to having the water brought in than we have ever been before, and perhaps this latest difficulty may prove to be the last. The position is certainly one of great anxiety, because Messrs. Restrepo have very kindly helped Mr. White with some money and with stores for the use of the mines, and that, of course, cannot go on indefinitely, and evidently the time is not far distant—indeed, is very close—when either the mine must come to the rescue or else some other steps must be taken to bring matters to an issue one way or the other. Every possible economy has been exercised. Although the directors' fees have been charged on the account, it is perhaps needless to say that they have not been taken, and Mr. Truran is providing the company with an office and office work on the terms of having something entered in a book for remuneration, but no money until brighter days shall come, I now beg to move:—"That the directors' report now presented be received and adopted, and that the accounts of the company to December 31, 1895, having been duly examined and audited, be now passed and allowed."

Sir GEORGE HARRIS, in seconding the motion, said: Notwithstanding that circumstances are at present certainly very discouraging, I have not myself lost faith in this property. I believe that there is a mine here, and that if we only had sufficient capital, and, perhaps, some additional assistance in the shape of a mining expert, to assist our manager out there, Mr. White, we could pull the company through, and that it might become a good, remunerative concern. I trust that nothing will be done until we have had an opportunity of consulting the shareholders in the Frontino and Bolivia Company, who have a very large interest in this property, and I trust that they, in their prosperity, will see fit to come to the aid of this mining company.

The motion for the adoption of the report and accounts was then put and carried unanimously.

On the motion of Mr. WARREN, seconded by Mr. ARMSTEAD, the auditors of the company, Messrs. Lovelock, H. W. S. Whiffin and Dickinson, were re appointed at a fee of 10 guineas.

A vote of thanks to the Chairman terminated the proceedings.

BRITISH COLONIAL MINING CORPORATION, LIMITED.

The statutory meeting of the shareholders in the British Colonial Mining Corporation (Limited) was held on Thursday, at Winchester House, E.C., Mr. H. ELLIOTT SPARKS, the Chairman of the company, presiding.

The SECRETARY (Mr. H. Hendriks) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This is the statutory meeting of the British Colonial Mining Corporation (Limited) and is called in conformity with the Companies Acts. A statutory meeting, as a rule, is simply a formal matter, called so soon after the incorporation that there is hardly any result of work to lay before the shareholders; but in this instance we have delayed calling this meeting until to-day in order that we might put before you a definite statement as to what we have done since going to allotment. This corporation was issued and subscriptions were invited to that issue on June 15, 16, and 17, and on June 19 we proceeded to allot the shares applied for. To be exact, I will tell you that the number of ordinary shares applied for was 21,336, and founders' shares 1028. These shares were duly allotted. In the prospectus which was issued, attention was called to the fact that the corporation had already acquired the option of dealing with several properties in the gold fields of Western Australia and New Zealand, and after the allotment had taken place it became a matter for our serious consideration as to which of these properties we should elect to proceed with. The reports and everything connected with them were carefully considered by the board, and in this matter we had the assistance of our consulting engineers, Mr. Collingwood Kitto, who is present with us to-day, and Mr. Henry Deakin, and after due and careful consideration we came to the conclusion that the best property for us to take up was the first one appearing under the heading of the Coolgardie Gold Fields in the prospectus. This property consists of four leases, aggregating 48 acres, and is situated in the well-known Black Flag district. From the reports which we then had we came to the conclusion that a considerable amount of development work had been done upon them, proving in a great measure the value of the property, and the one question which has retarded, and I must say somewhat seriously retarded, the progress of the gold mining industry in Western Australia—namely, the water question or difficulty, was absent with regard to this property. Of course, we could have selected more than one property, but we preferred to proceed upon conservative and cautious lines, feeling sure that, in the first instance, it was best to commit ourselves to one property only, and to take that through successfully before dealing with others. Mr. Henry Deakin, one of the corporation's consulting engineers, was in London at the time of our making this selection, and we arranged that he should proceed to Western Australia to make a special and independent report upon these leases, and take them directly under his own personal supervision, so that at the time of making a public issue we should have the benefit of his management and his care of our interests. Of course, pending the arrival of Mr. Deakin in Western Australia, we proceeded to go steadily forward with the development and working of the properties, the result of which, as you will gather by Mr. Deakin's report, is of the most satisfactory character. Well, gentlemen, Mr. Deakin proceeded to Western Australia, and the first intimation we received from him was in the shape of a cable, as follows:—"After making a most thorough examination, my opinion is that the property is a very valuable one. Have sent full particulars by mail." In due time we received from Mr. Deakin his report, which I have here. It is dated Coolgardie, September 7, and is addressed to your board. It is a particularly lengthy report, very full and complete in every detail, and I think no useful purpose will be served by giving it to you chapter and verse, but I should like to call your attention to a few statements which Mr. Deakin makes. He states in the first place:—"The property embraces an area of 48 acres, and has been taken up with a view to including as many of the various reefs as are known to exist in this locality as possible." On one of the leases he states that "a shaft has been sunk 60 feet, showing a well-defined body of quartz proved by costeens for a length of over 400 feet, with a width of 3 feet 6 inches, showing free gold. On the second lease a shaft has been sunk to a depth of 40 feet, a level drive has been put in 60 feet east and 80 west, proving the existence of a very valuable reef, but owing to the quantity of water, I have discontinued the working. There is a second shaft sunk on this lease to a depth of 60 feet, and in this shaft a lode formation about 3 feet 6 inches wide was cut, heavily charged with pyrites, and showing free gold.' This formation was a new discovery, and adds very materially to the importance and value of the mine. There is also a third shaft upon this lease, sunk to a depth of 60 feet, and here another reef running east and west has been cut, showing gold in paying quantities. On the third lease a shaft has been sunk to a depth of 40 feet, costeens have been cut in a tortuous manner, following the reef from one end to the other, disclosing the reef to a length of 300 feet. This reef is altogether different from the various formations and lodes cut in the various shafts in the other leases, being of a serpentine character, impregnated with mineral mixed with ironstone, and the quartz of a greyish colour. Another shaft has been sunk 40 feet deep, with a view to cutting the Serpentine reef, but, owing to the influx of water, we were unable to put in the drive necessary. There is no doubt that this Serpentine reef extends at right angles through the lode from the south-west to the north-east boundaries." On the fourth lease three shafts have been sunk to the depth of 40, 45, and 50 feet respectively. All these shafts disclose the fact of the existence of permanent reefs. Mr. Deakin further states in his general remarks: "I must congratulate you on the thorough manner in which this property has been prospected. I have hardly seen one which has been so thoroughly opened up, and in which the reefs disclosed are so numerous and of such character of stone. This district is noted for the quantity of water obtainable at shallow depths. The water question here is troublesome, not from its insufficiency, but from its quantity. The railway from Coolgardie to Menzies has been decided upon, and the survey line passes within a few yards of the property, hence I need scarcely point out the economy this will be in the carriage of machinery and mining supplies.' In conclusion, he states:—"I can safely say you have one of the best properties which it has ever been my lot to report upon. It has been thoroughly opened up and prospected; the numerous lodes disclosed are all of a valuable and permanent character, and I feel certain that, with proper machinery and efficient management, your property will yield handsome dividends to your shareholders." (Applause.) In addition to this report, four other engineers of the highest repute have examined the properties, and have reported upon same. Mr. Leslie Norman, M.E., states:—"There are at least four lines of lode, all carrying gold; the lodes will prove permanent in depth." Mr. J. Hicks, M.E., states:—"Judging from the quantity of gold shown in the mineral, as well as from stone broken and tried by dollying and panning, I can confidently say that the free gold will average at least 2 ounces to the ton. The results obtained from assays made of the pyrites in this particular belt of country gave from 10 ounces to 40 ounces of gold per ton, and I further assert my belief that the yield from the pyrites in this particular reef will surpass anything yet discovered or tried in the district. I congratulate you in having secured what I consider one of the most valuable properties I have yet inspected in the West Australian fields." Mr. Joseph May, M.E., states:—"From a good inspection of the surrounding properties, I consider it second to none in the district." Mr. T. De Courcy Brown, late Chairman of the Government Mining Board of New South Wales, states:—"I will turn out a really good property. I predict great things from these leases." Well, gentlemen, such a consensus of opinion from men second to none as mining experts in the West Australian gold fields can lead to no other conclusion than that this corporation has secured a mining property of great and permanent wealth, and that the situation of the same provides all those economic conditions for working a property successfully. Thus, gentlemen, you will see from the particulars I have already given you that this property consists not of one reef formation, rich but intermittent and patchy in its nature, nor do we profess to have a reef formation yielding hundreds of ounces of gold to the ton, but what we do profess to have, and what we know we have, is a large property consisting of a network of auriferous lodes and veins carrying gold in such quantities as to leave no question as to the very remunerative result which will attend the working of the same; and, furthermore, these lodes and reefs have been certified by our engineers to be of a permanent and lasting character. As our consulting engineer, Mr. Kitto, is present, I will not say anything more to you about these mines, but will leave him to address some remarks to you on them; he is an expert, and much better qualified to talk on such matters. There is, however, one point to which I wish to draw your attention. We are going to make a public issue of these Black Flag properties, and have registered a company under the name of the Black Flag Central Gold Mines (Limited), to acquire them. Before, however, making a public issue, we think it only right to afford the shareholders of this corporation a prior opportunity of subscribing for the shares. We not only consider it right to give you this prior opportunity, but we have decided that this priority should be accompanied by special terms of subscription. Shortly this: For every 20 shares for which you may think fit to apply in the Black Flag Central Gold Mines, this corporation will cause to be transferred to you by way of bonus a further five fully-paid shares, such further shares in no way entailing any payment or obligation of any kind, sort or description on your part. This simply means that you, the shareholders of this corporation, and you only, will be afforded an opportunity of acquiring shares in the Black Flag Central Gold Mines at 20 per cent. cheaper than anyone else. (Applause.) Of course, it will be possible for us to leave this opportunity open to you for an indefinite period, but we suggest next week forwarding to each one of you a full and complete prospectus of the Black Flag Central Gold Mines (Limited), together with two application forms, on one of which you will have to fill in the number of shares you intend subscribing for, and forward same to the bankers or secretary of the company with the necessary deposit, and on the other you will have to fill in the number of those bonus shares to which you will be entitled *pro rata* by reason of your application, and this form must be forwarded to the secretary of this corporation without any payment. We propose leaving the matter open to your option for 10 days after you receive the prospectus; after the 10 days have expired, if necessary, we shall make a public issue of the company, when the prospectus will be duly advertised in the leading financial, daily, and provincial papers, and directly that is done no bonus shares will, under any condition, be given to any applicant, shareholder in this corporation, or otherwise. I have put the matter as briefly and as distinctly as I possibly can before you. The advantages which we offer you are clear and manifest. You will have the prior opportunity of acquiring shares at a very much cheaper rate than anyone else, and, from what I have informed you of the great value of the properties, proved by careful and systematic development, those who have availed themselves of the opportunity of becoming shareholders will find that they have made a most fortunate investment, and we, the directors, are certain the near future will prove this to be the case. Apart from these properties, we have been fortunate in securing a very considerable interest in a property of great wealth in the Hannan's district. This property is situated within half a-mile of the town of Kalgoorlie. It was originally reported upon by Mr. W. G. Brookman, with whose name I should think you are all familiar, but for those who may not know this gentleman, I may tell you that he was one of the first pioneers of the mining industry in Western Australia, and through his acumen and great ability has obtained for himself a position second to none as an authority on the gold mining industry in that colony. The property embraces two distinct lodes, one of which is the famous Hannan's Brownhill lode, and, of course, being so near to the township, it has the benefit and distinct advantage of railway facilities, and the water question is solved. The shares which we hold on this property to-day stand at a price showing a profit to us of over 100 per cent., and this, I venture to believe, you will regard as a peculiarly satisfactory investment on our part. (Applause.) I do not think, gentlemen, that I can give you any further information. Of course, after Mr. Kitto has addressed you, it will be my privilege to answer any questions that you may see fit to put. We have nothing to hide from you; we are more than satisfied—I may say we are delighted to think that our first selection should have turned out so well, and I can assure you that the best efforts of my co-directors and myself will ever be directed to the best interests of the corporation, which, of course, means the best interests of yourselves. (Applause.)

Mr. COLLINGWOOD KITTO: I must frankly confess that in all my mining experience I have never listened to a more lucid, comprehensive, and up-to-date speech than the one we have just heard from our Chairman, and if, after that, he expects me to say anything, it seems to me rather anomalous. He has gone into the whole of the details in connection with the corporation, and also with regard to the Black Flag Central Mines; therefore, he has really left nothing for anyone else to say. With regard to the latter part of his speech, however, I may say the investment which the corporation has made has taken place in rather an unfortunate time. The depression in the mining market has been felt by everyone, but I have very little doubt in my mind that if the market had continued in its normal state, the investment would certainly have considerably more than doubled in value. Of course, we are all very much more concerned in the Black Flag Central Company than in any of the other investments, because we hope eventually from this property to acquire regular dividends, regardless of the state of the money market. I think I ought to say that the Chairman has really taken all the wind out my sails, but perhaps I may be allowed to remark that in acquiring properties in countries so far away as Western Australia we have to rely very largely on the report of mining engineers, or, as some choose to call them, mining experts. It is, therefore, absolutely necessary that we should secure the reports, not only of men of proved ability, but also of men of proved and unblemished reputation. (Hear, hear.) We believe that in Mr. Norman, Mr. Hicks, Mr. May, Mr. Deakin, and Mr. de Courcy Brown, we have secured the services of men whose reports are thoroughly to be relied upon. I wish to call your particular attention to the fact that we do not rely on any one or two reports. We have the reports of five men, who, I believe, were unknown to each other; consequently, I fail to see how it is possible that there could be anything in the shape of collusion on their part. Therefore, it seems to me that in the months of so many perfectly independent witnesses, the value of their property, according to their showing, ought thoroughly to be established. As our Chairman has told you, the Black Flag Central property consists of four leases or properties, comprising in the aggregate about 48 acres of very highly auriferous land. A very large amount of prospecting has been done in various parts of the property for the purpose of testing and proving its value before placing it on the European market. I believe over 1500 feet of costeens pits were sunk—that is, small trial pits—for the purpose of tracing the lode, or tracing the longitudinal bearing or strike of the lode. In addition to that, nine shafts were sunk in different parts of the

property, and I am very pleased to tell you that not in one or two, but in the whole of the nine shafts, they have discovered a payable lode, varying in breadth from 2½ to about 4 feet; and, according to the reports of the experts, its value is quite 2 ounces of gold per ton. The Chairman has also told you that Mr. Deakin, referring to this matter, says it is the very best property that it has been his privilege to inspect. Now, such a statement as this, coming from a man of Mr. Deakin's experience, ought in itself to speak volumes, and under the most ordinary circumstances would in itself be almost a sufficient guarantee of the value of the property. The passing of the railway direction of the railway, to transport machinery, whereas it can now, or very shortly will be, delivered at a comparatively trifling cost. Of course, we hear a great deal in the City, when people have not much to do on the Exchange, as to the collapsing of the mines in some countries, and the petering out of the lodes in others. I think it is a case of Satan finding something for idle hands to do. As far as Western Australia is concerned, I am quite certain that in no country in the world has nature been more lavish in the blessing of the precious metal and in providing us with permanent lodes. (Applause.) With regard to the extraction of gold from the ore, of course, like many other places, much will depend upon the character of the ore as it is taken out of the mine. For example, in the Witwatersrand district of the Transvaal the MacArthur-Forrest process did probably almost as much towards the prosperity of the place as the gold itself, but, of course, in Western Australia it is somewhat different. There a proper mechanical separation of the gold from the ore can be very easily effected, while the fine gold which escapes now in the tailings with some of the refractory ore will eventually be extracted by the MacArthur-Forrest or some other equally effective process. With regard to the water question, I think too much cannot be said in favour of this point. In the Black Flag Central property there is certainly an unlimited supply of water for all purposes; in fact, the quantity of water on this property, coupled with the favourable character of the lode and the character of the surrounding country, are such that ore containing 2 ounces of gold per ton on this property can be worked at a greater profit than ore containing 4 ounces of gold per ton in some of the other gold fields. (Applause.) That will give you some idea as to its general value. With regard to Western Australia generally, most people who know me are aware that I believe it is the richest gold-producing country that has ever yet been discovered in the whole world, but there is one thing which I think we, as loyal Englishmen, ought not to lose sight of. The Black Flag Central is situated, and we are mining for gold, in one of our own undisputed possessions—a country in which our own institutions obtain: a country where men, if they care to do so, can worship according to the dictates of their own conscience without any fear of their losing their heads, and a country in which we are all pleased to say between Englishmen and colonists there is no dividing line, and where each individual, I believe, is prepared to stand shoulder to shoulder in weal or woe. This is the country where we are mining for gold, and in which I venture to think the Black Flag Central, with some other properties I could name, and with which I intend to be associated, will one day pay their 50 or 100 per cent. per annum regardless of the jealousy of turbulent monarchs, or the double dealing of Boer presidents. I should like to say a little more, but I frankly confess that I have not been feeling very well, and perhaps ought not to have been here at all. I can assure you, however, in conclusion, that I shall always be very pleased to do everything in my power to assist the directors in conducting the affairs of the Black Flag Central Company to a successful issue. (Applause.)

A vote of thanks to the Chairman concluded the meeting.

WHITE HORSE GOLD MINING COMPANY (W.A.), LIMITED.

The statutory meeting of the shareholders in the White Horse Gold Mining Company (Limited) was held yesterday at the Cannon-street Hotel, E.C., under the presidency of Mr. F. GRAHAM LLOYD.

The SECRETARY (Mr. Newman M. Ogle) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You have been called together to-day in compliance with the regulations of the act under which the company is incorporated, and which, as you are doubtless aware, requires that the first ordinary general statutory meeting of the shareholders should be held within four months of the registration of the company. There is, of course, no formal report or statement of accounts to submit to you on the present occasion, and in view of the very limited period during which we have been constituted, any detailed account of the company's business would be obviously out of question. At the same time, my colleagues and myself gladly avail ourselves of this opportunity of meeting you and making you acquainted with the latest information in our possession concerning your property, and I may add that the pleasure we feel in meeting the shareholders to-day for the first time is considerably augmented by the fact that the information we have to bring before you is of a most satisfactory and encouraging character. Before, however, reporting the latest news from the mine, it will be well I should inform you that all the necessary legal arrangements in connection with the transfer of the property and the registration of the titles in the company's name have been fully and satisfactorily carried out, and our solicitors in London have been formally notified by the company's legal representatives in the colony that this has been done, so that we may now be described as in actual "legal" possession of our property. In connection with the representation of the company in the colony, I am pleased to be able to inform you that both of the local directors, Mr. D. H. Braidwood and Mr. A. J. Roberts, who are well known to many of you, were in London until recently, and the board here have had the advantage of their presence at several of their deliberations, so that these gentlemen have learned very fully our ideas as to the working of this property, and these personal conferences will, we feel sure, be of great service to the company. Mr. Roberts is now at Kalgoorlie, and the result of his further inspection of the property was cabled to us on the 25th of last month in the following terms:—"After making a most thorough examination, my opinion is the property is a very valuable one. Everything looks most favourable.—Roberts." Mr. Braidwood is at the present moment on his way to West Australia, and within the next few days we expect to learn of his arrival. For the post of secretary to the company in the colony we have secured the services of Mr. E. H. Jeffery, in whom your board have full confidence, and I propose to read you later on some extracts from correspondence recently received from him. Passing now to the property itself, I may remind you that this company was formed to acquire and work a gold mining lease known as the White Horse, comprising 12 acres, situate at Bulong, in the I.O.U. district, and about 18 miles from Kalgoorlie, to which centre the railway has already been extended. You may be sure that we have not been idle during even the short period we have been in possession. From the date the company took over the mine prospecting and exploratory work has been proceeded with, not so much with the view to the attainment of immediate results, as to prepare the way for the vigorous development of the resources of the property as soon as the local directors had arrived at Kalgoorlie, and had determined upon the policy to be pursued. Somewhat to our surprise, however, the work carried on during this interval of tentative operations has been fruitful of definite results of a satisfactory character. We were confident from the first—as far as it is possible to be sure in mining matters—that we possessed in the White Horse lease a valuable property, and although we fully expected to reach a high grade body of ore at an early date, we were not altogether prepared for the realisation of our hopes within so short a period of the formation of the company. On September 21 last we received the following cable from Mr. Jeffery:—"White Horse Mine struck a very rich body of ore in driving north from south shaft. Believe it to be exceedingly valuable. Shall I send specimens?" In reply to this message we instructed Mr. Jeffery to forward specimens, and upon their arrival you will be notified, so that if you desire it you can inspect them at the company's offices. This cable was published for your information in the mining and financial papers. Within the past few days we have received advices by mail fully confirming the first news of this new find. As we are anxious that the shareholders should be in possession of the latest information to hand, I cannot do better than read you extracts from Mr. Jeffrey's letter bearing upon this particular discovery. Writing under date September 23, our local secretary says:—"I wired you on the 19th inst. re an important discovery at this mine. You are, of course, acquainted with the salient features of the property, and no doubt the particulars placed before you would foreshadow a very promising future. The developments, being the work done by the prospectors and other holders, were comparatively of small extent, but had disclosed the presence of a huge lode formation, in places over 100 feet wide. This all carries a small percentage of gold where opened, but portions have been discovered to be exceptionally rich, and a chute of gold-bearing material struck when driving near the hanging wall on the western side of the lode was found to be wonderfully rich. These facts will be already known to you. But the find of which I cabled you was made at the 100 feet level in driving north from the south shaft, and about 10 feet from the west crosscut through the lode. Near the hanging wall a strong body of ironstone and quartz was met with on the 19th inst., and discovered to be phenomenally rich in gold. The manager wired me immediately this was struck. I went out to the mine, and had some stone broken from the lode, and this was the richest I have ever personally seen, and thereon I cabled you regarding the same. I am sure both the quantity and quality of the specimens I could send on would create a sensation anywhere. At this juncture it is impossible to gauge the value of the body of ore, but for the space of several feet where exposed it is wonderfully rich, and it appears to be a strong body running down the western side of the lode. I have been all over the White Horse property, and think it likely to develop into an exceedingly valuable mine. The adjoining mine, south on the line of the lode, is the Queen Margaret; this is a well developed property under the charge of Mr. Fred Simpson, formerly manager of Block 14, and it is turning out splendidly. A trial crushing of 15 tons put through at the Leviathan battery averaged nearly 14 ounces, and I am credibly informed that a further lot of 50 tons, which will be sent on shortly, will go 9 to 10 ounces. Of course, nobody anticipates for a moment that the whole of their lode averages anything like these returns, but, nevertheless, they have large bodies of rich stuff, and when a battery is running at the mine the stuff will be graded, and no doubt good average crushings maintained. Mr. Sutherland, who is at present in charge at the White Horse Mines, has been employed at the Queen Margaret, and managed same during the absence of Mr. Simpson. He has also had the supervision of the White Horse for some time, and he expressed the opinion to me that the White Horse is even a better property than the Queen Margaret, and has the very greatest confidence in its ultimate successful future." In conclusion, Mr. Jeffery remarks:—"I have sent ore bags out to the mine, and all the richer stuff will be bagged and safely stored pending instructions or arrival of the local directors." In glancing through a file of the *Melbourne Argus*, I notice in the issue of September 1 that their special mining reporter, Mr. Daly, had visited this district, and I should like to read to you what he says of our property:—"The White Horse Company. This property, which adjoins the Queen Margaret on the north, has only just been taken over from the prospectors. The small amount of work done by the original owners has proved that the rich lode is continuous right through from the Queen Margaret and into this property. At a point 240 feet north from the southern boundary a shaft has been sunk vertically to a depth of 60 feet, and a crosscut west intersects the lode, which has been followed down on its westerly underlie for about 45 feet. At a depth of 15 feet on the underlie some rich specimens were obtained, containing as much as 120 ounces of gold. Golden stone is still to be seen in the face of this drive where the same character of lode as developed in the Queen Margaret is exposed. The lode in this mine has the appearance of becoming more vertical as depth is obtained." I have here a copy of the paper, which I shall be pleased to show to anyone interested. With regard to the rich find of ore, which was, of course, discovered subsequent to Mr. Daly's visit, the question that will naturally suggest itself to your mind is how and when are we going to deal with it. Well, gentlemen, I am pleased to be able to inform you that arrangements of a complete and satisfactory character have been made for the treatment of the produce of our mine, and I think you will be disposed to congratulate yourselves when I add that those arrangements do not involve this company in any trouble or expense. In accordance with an understanding with the Bulong Mining Tramway and Ore Reduction Company, that company will erect crushing machinery, &c., and construct a tramway for the purpose of carrying our ores from the mine to the reduction works. I may anticipate the detailed statement that will be later brought before the Bulong shareholders to the extent of mentioning that contracts have been signed for the supply of all materials and plant required for the construction of the tramway, and the first instalment of sleepers and rails is ready for shipment. The other works proposed by that company are, I believe, in an equally forward state, and from these facts you may safely gather the assurance that no time has been, or will be, lost in giving the shareholders the benefit of this undertaking at the earliest possible date. To-day we have received this cable, which I am sure you will view as very satisfactory. It reads:—"White Horse. The mine looks splendid, opening up exceedingly well; just struck lode in north shaft. Queen Margaret lode traverses us over 300 yards. Their trial crushing of 15 tons has yielded over 186 ounces." I have nothing to add at the moment, except to thank you for your attention, and to say that I shall be happy to answer to the best of my power any questions that anyone may wish to submit.

Mr. BONNIN enquired as to the locality of the Bulong crushing machinery.

The CHAIRMAN: It is on the Lake Bulong, very close indeed to our property.

Mr. BONNIN: You have mentioned the names of the local directors. Is there any board in Adelaide?

The CHAIRMAN replied in the negative, and said that the colonial directors were affiliated to and acting in concert with the London directors. He further stated that there was a share register now in Western Australia, and that transfers had often been made from one share register to the other.

Mr. CUFFE enquired as to the amount of the working capital of the company.

The CHAIRMAN: There are 20,000 shares allotted in respect to working capital, and 15,000 others kept in reserve.

A SHAREHOLDER: Leaving 65,000 for the vendors.

The CHAIRMAN: That is right.

A vote of thanks to the Chairman terminated the proceedings.

EXPLORATION COMPANY (LIMITED).

An extraordinary general meeting of the shareholders in the Exploration Company (Limited) was held on Wednesday, at Cannon-street Hotel, E.C., Mr. R. Maguire presiding, for the purpose of confirming the resolution for altering the Articles of Association of the company, which was passed at the meeting held on October 16.—The Chairman said, as they were aware, that was only a formal meeting called in order to confirm the special resolution passed at the last meeting, by which the Articles of Association were altered in order to bring them into accordance with the regulations of the Stock Exchange. He had, therefore, merely to move that the resolution be agreed to.—Mr. Ryder seconded the resolution, and it was carried

BRITISH SOUTH AFRICA COMPANY.

An extraordinary general meeting of shareholders in the British South Africa Company was held yesterday, at the Cannon-street Hotel, for the purpose of increasing the capital of the company. His Grace the Duke of FIFE presided over a large audience, completely filling the Great Hall.

The notice convening the meeting having been read,

The CHAIRMAN said: Gentlemen—When the board of directors issued their circular to you on February 10 last, explaining why it was expedient to defer holding the ordinary general meeting, there was nothing in the condition of affairs in Rhodesia leading us to anticipate the disasters we have since experienced, and which forced us to make a new debenture issue, and now necessitate our coming to you for a resolution increasing the capital of the company. The copious reports that have been published through journalistic enterprise during the current year have made you fully familiar with the matters mentioned in the circular accompanying the notice convening this meeting. I refer to the native rebellion in Rhodesia, and to the outbreak of rinderpest. The exceptionally heavy expenses thrown upon the company have exhausted the half a million cash which was in hand last February, and the whole of the debenture moneys—a million and a quarter—raised in July last. The injury resulting from the cattle disease has been most far-reaching. In the absence of a complete railway system the usual mode of transport is by ox wagon. This the plague has stopped, preventing the usual flow of provisions into the country, and, as a consequence, we have been compelled to make arrangements in Rhodesia at great expenee, for provisioning the country during the coming rainy season, to assist both the settlers and natives. This has been successfully accomplished, and you will learn with satisfaction that there is no prospect of any renewal of such hardships as were experienced in the season of 1891-1892 (Cheers.) The rebellion is practically over, and the Imperial troops are leaving the country; the military experts considering that 200 hussars and 600 police are sufficient for the proper protection of life and property in Matabeleland. From the best calculations and estimates Lord Grey—our administrator in Rhodesia—can make, we believe the million we now propose to raise by the issue of 500,000 shares at £2, will meet whatever further exceptional outlay is necessary, and carry us on until the end of September, 1897. (Prolonged cheers.) If our anticipations are borne out, the ever-increasing revenue of the country ought next year to meet ordinary expenditure. Our advices from Buluwayo as to the prospects of the company are most encouraging; the prices realised on sales of land and stands keep advancing, and are evidence of the confidence of the people in the future of the country. (Applause) We shall have unissued the second 500,000 new shares, of which 150,000 may be taken at £2 15s. under the option given as mentioned in the circular you have lately received. We propose to allot the 500,000 shares now to be issued at £2 among the shareholders *pro rata*, but in doing so we have thought it right to secure the success of the issue by making underwriting arrangements as respects 300,000 of these shares, and you will have been gratified to observe that these underwriting arrangements have been made in consideration only of the option to take further shares at £2 15s. Under this arrangement the underwriters get nothing for the obligation they have undertaken, unless the investment you are asked to make rises in value upwards of 15s. per share. Further, the underwriters remain liable for the whole 300,000 shares until 200,000 have been taken by the shareholders, and are only relieved to the extent of your subscriptions beyond 200,000 shares. This is a favourable variation from usual underwriting arrangements. We trust, however, that our shareholders will show their continued confidence by taking up the shares offered to them. This is an extraordinary general meeting, and can only deal with the subject for which it is called. We cannot, therefore, discuss the general business of the company, or matters connected with the recent events in South Africa, that have been the subject of so much publicity, and are to form the subject of enquiry. So soon as this enquiry is over the ordinary general meeting will be called, that our reports and accounts may be submitted to you, and the company's entire position discussed. The same reasons prevent u on this occasion dealing with the retirement of Mr. Rhodes and Mr. Beit, but I may here be allowed to state that both these gentlemen have fulfilled the pledges they gave, and have rendered the company, and are still rendering, loyal assistance. (Loud cheers.) I beg to move the following resolution:—"That the capital of the company be increased to £3,500,000 by the creation of 1,000,000 new shares of £1 each."

The Duke of FIFE seconded the motion.

Mr. DE PASS contended that there was no necessity for the suggested underwriting. There would be no 300,000 shares unapplied for. The proposed underwriters had been sellers of Chartered shares for the past 12 months—(hear, hear)—and it was monstrous that the shareholders should be asked to give those gentlemen a call of 150,000 shares. They were told that the prospects of Rhodesia were very favourable, and most likely they were. Then were these gentlemen to be allowed to obtain 150,000 shares at 2½ within the next 12 months? Why, only a few months ago the shares stood at £9. This underwriting business, in his opinion, would be detrimental to the interests of the shareholders, and should not be carried out.

The SOLICITOR (Mr. Hawksley) pointed out that it would be more in order to discuss the question of the underwriting under the second resolution which would be submitted.

The CHAIRMAN put the resolution which he had moved, and it was carried with acclamation.

The following motion was next submitted by the CHAIRMAN:—"That the underwriting arrangements referred to in the circular accompanying the notice convening the meeting be and the same are hereby approved." (Loud cries of "No.")

Sir HORACE FARQUHAR seconded the proposal, and there were renewed cries of "No."

Mr. DE PASS desired to move as an amendment that the shares be offered without any underwriting. (Loud cheers.)

The SOLICITOR said the amendment was practically a direct negative, so that the issue before the meeting was whether or not the underwriting arrangements were to be approved. He was expressing the feeling of the directors in saying that if the evident sense of the meeting was that the arrangement should not be confirmed, the directors, of course, would far prefer that the shareholders should take the whole million. (Cheers, and a VOICE: "We only want the chance.") If the shareholders negatived the proposed underwriting arrangement, he would take upon himself to say that the directors would invite them to subscribe the whole £1,000,000 that they had authorised.

A SHAREHOLDER wished to know what reason had led the directors to suggest the underwriting arrangement.

For the benefit of some shareholders at the rear of the hall who had not heard the statement made by the solicitor, Mr. HAWKSLEY repeated it, adding, "Sometimes the voice of the shareholders is of use, and your voice has clearly shown it is the evident desire of the meeting that the resolution should not be put."

Several SHAREHOLDERS asked for the names of the proposed underwriters to be given, but no information on the subject was elicited from the directors, the CHAIRMAN merely stating that the directors had nothing whatever to do with the underwriting.

Two attempts were made by the CHAIRMAN to put the second resolution, but no hands were held up either for or against, the majority of those present apparently being unable to hear the request of the Chairman.

A SHAREHOLDER afterwards asked: Is any portion of the money proposed to be raised to be devoted to the payment of Kruger's indemnity? (Loud laughter.)

This question not being answered, another was put—namely, Is it true that Rhodes and Beit are going to pay up? but the enquiring SHAREHOLDER elicited no reply.

The resolution was then voted upon, and declared lost amid loud cheers.

The CHAIRMAN said he had only to add that he should rely upon the shareholders to take up the shares which were asked for at this

meeting.—(VOICES: "Half-a-million?" and "At what price?")—Half a million, and to show their confidence in the company.

Sir HORACE FARQUHAR said he had not intended to take part in the discussion at that meeting, nor did he in the least grumble at the unanimous voice which the meeting had expressed; but he wished to make one or two remarks as to what he considered the duty of the Chartered Company. (Hear, hear.) They had just passed through extremely anxious times. (Hear, hear.) There had been a serious panic in the market to which the Chartered Company belonged. They were obliged to have the money which had been created by resolution on that occasion so as to meet the expenses that had been incurred in Rhodesia; they were requested by the authorities there to do so on the very best terms possible. The directors did all in their power so as to be enabled to come to the shareholders and tell them that if they did not take up these 500,000 shares, 300,000 of them, at any rate, was guaranteed, and, therefore, the financial position of the company was secure. (Applause.) It was the directors' absolute duty to do that, and although perhaps the shareholders might not agree with what the board had said, he might tell them that three days before they obtained the guarantee in question they found it was absolutely impossible for them to do so, and had they attempted to get that guarantee two days later they would have been equally unsuccessful. Therefore, the board did as they always had done, as the guardians and protectors of the shareholders; they did what they considered to be their absolute duty—namely, to get that money guaranteed as cheaply as they possibly could, and they were of opinion that to give the proposed underwriters the option of a number of shares at a price certainly 10s. above the market price of the day was not an unreasonable return for the risk those gentlemen were taking. Everyone of the gentlemen who agreed to underwrite those shareholders did so more for the good of the company than anything else. (Cries of "Oh.") He dared say there might be a few discontented gentlemen at the back of the hall who did not understand business—(laughter)—but he maintained that the directors had done their duty in obtaining the guarantee. The shareholders, however, by a very nearly unanimous vote, had rejected the financial arrangements the board had made, and he and his colleagues accepted the resolution of the meeting, but they would count upon the shareholders subscribing the money that had been asked for. (Applause.)

The CHAIRMAN having announced that the business was concluded,

A SHAREHOLDER asked—What about the indemnity? This was followed by a request for three cheers for Mr. Rhodes, which, amid cries of "No!" and a few hisses were given by a portion of the meeting only, the proceedings then terminating.

WEST AUSTRALIAN VENTURE SYNDICATE, LTD.

The second ordinary general meeting of the shareholders in the West Australian Venture Syndicate, Limited, was held yesterday at Winchester House, E.C., Mr. W. F. Orriss (Chairman of the Company) presiding.

The Secretary (Mr. E. FAIRWEATHER) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen,—The report and accounts laid before you to-day, giving the result of fifteen months' work, and which it is my duty to ask you to approve, will, I think, give general satisfaction to the shareholders. As you have all probably read the report, with your permission I think we will take it as read. The net profit for this period, after writing off the entire preliminary expenses and making due provision for depreciation, has reached the substantial figure of £104,089—(applause)—of which £63,223 is cash and the balance, £40,865, shares. Out of this sum an interim dividend of 15s. per share has been paid, and the payment is now recommended of a further 5s., making 20s. on each of the original ordinary shares, and after payment of the dividend on the founders' shares, a balance of £69,364 is carried to reserve. The Directors believe that in carrying this considerable sum to reserve they are doing wisely in view of the large business this syndicate is at present carrying on, for which, as you will readily understand, ample funds are required. I would like here to say that several enquiries have been made by shareholders, not only in this company, but in companies allied to this company, as to the possibility of future calls being made; and I would like to make it very clear to those shareholders that our intention is, as far as possible in this group, to carry forward so large an amount of cash to reserve as will render any further call on the shareholders unnecessary. (Applause.) When you consider that this result has been obtained with a paid up capital of less than £25,000—that is to say, that we have received as profit during the period under review, more than four times the capital of this company—I hope that you will all agree with the directors that this is a matter for congratulation to the shareholders. (Applause.) You will naturally understand that in a new country like Western Australia, which this little syndicate was originally promoted with a view to exploit, our expenses during our first year have been exceptionally heavy, and I may further say that the experience which has been gained by us, owing to this exceptional outlay, will, we hope and believe, very materially assist our future operations in the Colony. With regard to our organisation I think we may say that so far as London is concerned our organisation, here is complete and effective. Our efforts have been as far as possible to produce a corresponding position of things in Australia. Consequently, we have laid out some of your money in the erection of buildings in the best part of Perth, and on a big site in Coolgardie, where at present buildings are being erected for the convenient occupation of our staff. We hope that in consequence of these arrangements our business out there will be very materially facilitated. You must be aware that in a new country like Western Australia we have had to contend with very considerable difficulties, and those difficulties, which we have to a certain extent overcome in the past, have, as I have before remarked, occasioned a certain amount of experience, which must redound to the advantage of our future working. With regard to the present position of the mining market, as business men we all know it is, and has been for some time past, in a very serious and depressed condition. Whether that condition will continue, it is not for me to say; but if it should continue, our arrangements will be in the direction of providing machinery for our own properties, and if it is impossible to successfully issue sound West Australian properties on the London market, you may take it from me that the capital which to-day you have practically agreed to pass to reserve account will be profitably employed in exploiting our own properties, and will return, as we hope, profits to the shareholders. I may further say in this connexion that at the present moment we have machinery ordered for three of our properties, and that we have made satisfactory arrangements with a leading firm of manufacturers to complete their mills for us and hold them at our disposal, when we shall take delivery as and where we require them. I may here say a word in regard to the labour conditions of Western Australia. We have, in conjunction with other leading West Australian exploration companies, had this question under our serious consideration. We believe the West Australian Government have met the difficulties which have attended the early days of this mining industry out there so fairly that should we, in conjunction with the other companies I refer to, make respectful and proper representations to the West Australian Government, I think they will listen to us and see their way to materially reduce the very severe and harassing labour conditions which are now one of the difficulties with which exploration companies have to contend. Our managing director in Western Australia has recently made a tour through the eastern colonies, and he has made arrangements to open up for us agencies in Adelaide, Sydney, and Melbourne. The outcome of this arrangement up to the present moment is that one of these agencies is under contract to us to purchase one of our properties at a profit which will yield on our original outlay a very handsome return indeed. (Applause.) With reference to our engineers, Mr. George Seymour, Mr. Cox, Mr. Furman, and Dr. Brand have returned, and we had the misfortune to lose by death an undoubtedly capable engineer in Mr. Reuben Rickard. The engineers we have at present on the field are Mr. Varden, of Messrs. Bainbridge, Seymour & Co., Mr. Holst, the Swedish State Geologist, Professor Chemin, who is officially commissioned to report on the field to the French Government, Mr. G. H. Williams, Mr. W. Foggin, and Mr. C. W. Thompson. I may say that we have every reason to believe that these reports will be in every way favourable, and in that case it goes without saying that we may reasonably assume the French investor will have his attention directed to these fields as a desirable form of investment. I feel it would be presumption on my part at a meeting like this to go fully into the question of the mining industry of Western Australia, but so convinced am I of the possibilities of the country, which is but very little known and to a very small degree appreciated here, that with your permission I will quote a few statistics which will prove to you the development that has taken place in that country within the last few years. In 1886, 302 ounces of gold were produced which realised £1,148; in 1889, 15,493 ounces were produced which gave £58,871; in 1893, 110,893 ounces gave £421,385; and in 1895 231,513 ounces gave £879,748. Now these returns, it must be borne in mind, were produced under very exceptional difficulties. The country was not opened up, the mode of transit was extremely primitive and difficult, and that bogey—the water difficulty—met the early pioneers at every turn. Well, since then the condition of things has been entirely changed, the Government of West Australia, having satisfied themselves that this is a permanent goldfield, have wisely come forward, by effecting the construction of the railway, and by passing a Bill to meet the difficulty of the water, and in every other reasonable way they are fostering this new and important industry, which, in turn, is in all probability going to make this colony one of the richest and most successful under British rule. I may say, further, in regard to the water difficulty, that one of our engineers who has just come home pointed out to us that it is not nearly so serious a matter as some people imagine. His statement is that water is almost always found by sinking, and on the property he came from at Menzies, the superabundance of water is likely to prove the difficulty there instead of the absence of it. Now, I am not going to indulge in any kind of prophecy, because it is seldom successful until after the event, but when you consider the hundreds of batteries that are at present being erected, at various mines out there, when you consider the thousands of tons of machinery which at the present time are in course of transit to these mines, I think it is pretty easy to predict that the development of the goldfields in the near future will be of a very surprising character. I would here like to say, with regard to the retirement of Mr. H. S. Stoneham, who was a member of the board, it was a source of great regret to his co-directors that he was obliged, owing to pressure of business, to retire, and we wish most handsomely to acknowledge the assistance he was good enough to render during the time he was a member of this board. And I cannot allow this opportunity to pass without acknowledging to the full the devoted interest that has been shown by our managing director, Mr. F. W. Baker, and by our manager, Mr. S. A. Bird, in the affairs of the Company. (Applause.) I think I may further say that the entire staff has given unwearying attention to the success of the Company. With your permission I will now formally propose "That the report of the directors and the accounts be received and adopted, and that the dividend therein recommended be declared."

Mr. ARTHUR CHAMBERS seconded the resolution, which was carried unanimously.

The CHAIRMAN then moved the re-appointment of the auditors, Messrs. Monkhouse, Stoneham & Co.

Mr. G. H. COLLINS seconded the motion, and it was carried.

A SHAREHOLDER, in moving a vote of thanks to the Chairman and Directors, said he hoped and believed that they would achieve as satisfactory results during the current year as they had had during the past.

Mr. W. MARDEN seconded the motion, and referring to the labour difficulties, said that morning the Chamber of Commerce had received information that the West Australian Government would take the matter into their consideration at the first meeting of the Colonial Parliament.

The vote was heartily accorded.

The CHAIRMAN, in reply, said he was extremely obliged to the Shareholders for the kind vote, which would prove an incentive to the Directors to continue to devote their services to the Company's interests in the future as they had done in the past.

The meeting then terminated.

THE WAITEKAURI GOLD MINING COMPANY, LTD.

THE ordinary general meeting of shareholders in the Waitekauri Gold Mining Company Limited was held yesterday at the Cannon Street Hotel, the chair being occupied by Mr. Thomas Russell, C.M.G.

The SECRETARY (Mr. Hubert Akers) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen,—The accounts accompanying the report are clearly arranged, and do not appear to require explanation or comment; but if further information in reference to them is required, we shall be glad to answer enquiries before you adopt them. The report also contains a complete narration of the facts; care was taken to make it as clear and full as possible, particularly with reference to the Golden Cross Section of the Company's property, which more immediately interests us to-day; but if any explanation upon any part of the report is desired, we shall be very glad to give it, and the opportunity will occur before we ask you to adopt it. Indeed, the fulness of the information has left me little to add to what you already know, and is the best of reasons for the brevity of my speech; for if I omit information you expected from this chair, it will be because you have it already in the report in your hands. Nevertheless, shareholders may reasonably look for an expression of our views and expectations upon some of the questions which are present to our minds connected with the future of this great property, and it is a pleasure to me now to state these views and to comment upon some of the facts disclosed, so that you may have a better understanding of the present position and future prospects of the Company. In one of the concluding paragraphs of the report a short sketch is given of some of the difficulties which attended our enterprise during the past year. People in England accustomed to good macadamised roads and the facilities and comforts attending easy locomotion, have not the faintest idea of the first difficulties of the New Zealand pioneer miner in a new and roadless district, among the Waitekauri ranges, covered with a dense and tangled forest, the clay tracks of which—knee-deep in mud, kept constantly wet by torrents of rain—are impassable for wheels in winter. In such a place, and under such conditions, we had to start this large undertaking, and carry it to a dividend paying point. It was a complicated and a difficult task; but knowing the enterprise to be a good and sound one, we took up the work with a resolution founded on the strongest confidence in the results. The work we had before us 18 months ago should have had two years allowed for it instead of practically one year; for then we should have had two New Zealand summers in which to do the work instead of one. I will not enumerate the various obstacles and hindrances, some of them very provoking. Quartz mining is at all times, under the most favourable circumstances, a slow and costly undertaking, and in our case the outside obstacles increased the difficulties. We have sunk a large and permanent shaft, equipped it with a permanent pumping and winding plant. In addition we have driven levels, made rises, and sunk winzes to the extent of upwards of 10,000 feet. We have built a splendid mill with 40 head of heavy stamps, and foundations laid for more stamps. Should we decide to increase the reduction plant by erecting more stamps, we have built the necessary kilns with cyanide vats and plant, made large and substantial dams, and many miles of large open water-races, flumes and pipes to convey the mountain streams along the sides of high hills and across valleys in this difficult country in order to provide cheap motive power at the mill. Through these hills, for the purpose of connecting the mine with the new mill we have built a permanent tramroad laid with iron rails upwards of four miles in length. What we have done, we have done well and in a lasting manner. We have made no temporary expedients, no patched-up work that will require to be done over again, it is all of a permanent, solid, and lasting character, made by owners of a great property who have gone there to stay. Our large mill is now in full work with the best results, dealing with larger quantities of ore per week than we had expected. In a few days we shall pay our first dividend, and all this has been done in time to report these satisfactory results at our first annual meeting, a feat never before attempted or accomplished in any mine in New Zealand. I congratulate you upon what has been accomplished and upon the satisfactory outlook to-day. I have called your attention to these facts for two reasons—first, because I think great praise is due to our local officers, Messrs. Barry and Purchas, for their efforts in carrying out our instructions under difficulties; and secondly, to assure you that having thus overcome the great initial difficulties attending this enterprise we shall use the same earnest endeavours to carry it through the easier stages in the future to attain the still greater success we have in view. I have before reminded you that quartz mining is slow and costly work, attended with many uncertainties. A quartz mine is not a mint, producing ready-made sovereigns, but a great industrial undertaking, which requires patient attention, forethought, capital, and perseverance. You have to search for ore, there is not much difficulty in finding that, there is plenty of that on every gold field in New Zealand; it is more difficult to find payable ore, yet there are a good many mines which do contain payable ore, but not in quantity; it may be found perhaps in patches or small veins, sufficient for a few dividends, and then no more; such mines are a source of trouble and anxiety to all connected with them. The gold mines in the world that contain large masses of payable ore, that will keep large mills going for long periods, and yield dividends year after year, are few—very few indeed. We have such a property at Waitekauri, and it is a pleasure to be engaged in opening up and managing a property of this description, which has already given, and is now giving, good results, and which has entered upon a career with promise of still better results in the future. The extensive prospecting works carried on during the year are fully dealt with in the report, and call for no further comment to-day; but let us briefly glance at what we have added to the company's wealth in payable ore since our purchase was completed. When we took over the property we knew of the rich run of gold in the lode from which the late owners took £29,634 out of 5,210 tons of ore in a few months. That lode is intact in the mine below the level they worked, winzes have been sunk upon it below that level in the ore for 160 feet, making a total distance from the surface of 374 feet, and it is payable throughout with every appearance of the lode continuing of good quality below. This alone is an excellent record. At this point in the history of the mine, the late managing owner of the Komata purchased a large interest in the Golden Cross Mine—the greater attraction of the new property monopolised his attention; work was discontinued upon the Komata and commenced on the larger and more important property. Some time after we purchased the Komata we resumed prospecting work upon it at several points and have more than doubled the area of payable ore previously known, and so increased the value of the mine. This work of exploration is still in hand, and will be continued during the present New Zealand summer. The Komata is a large property of upwards of 197 acres, and requires a good deal of money to open it up; more money than can be spared from the funds of the Waitekauri Company all of which should be reserved for mine development and extended reduction works in connexion with the Golden Cross Section. The Komata has been overshadowed by its greater neighbour the Golden Cross. If the Komata stood alone, it would attract the attention it deserves. It is a good mine, there are not many better in the North Island of New Zealand, and when our developments have proceeded a little further we propose to give it a separate existence as an independent Company, and I predict it will maintain its position as a first class mine. I shall now refer to several points in connexion with the developments in the Golden Cross Section of the property upon which I think a few observations from me may be of interest to you. I have been asked about the disappearance of the reef at the Northern end of Corbetts Level. The reef maintained its bold and strong character for upwards of 1,000 feet from the cross cut; indeed it had increased to 40 feet in width until at 1,008 feet, a "slide" or "fault," that is a fracture in the country rock, appeared at the northern face—a very common occurrence in mining. In recent letters, the mine manager described what happened as follows: In the face of this drive there is a fault crossing the country; it is composed of a soft blue formation. Before coming up to this fault the reef was very much broken up. I believe that the reef will be found again on the north-east side of the fault"—this blue country rock later on he has described as "heavily mineralized blue sandstone"; it is impossible that this strong master lode should disappear. I have not the slightest doubt but that we shall find it on the northern side of the "fault," and as this point is over 2,000 feet from our northern boundary. We shall confidently continue our search for the lode on the north eastern side of the fault; but looking to the large area of property we are dealing with in this Golden Cross section—399 acres—it would not be a matter of great importance if we did not find it again. It only affects a portion of the northern end of our large property, where up to the present time no gold has been found, and does not in the slightest degree affect the central and southern part of the Golden Cross property, where all our works are, and where all our gold has hitherto been found and worked, and which has made our mine famous among New Zealand miners. Some time since we had to discontinue sinking our main shaft owing to the impossibility of getting the pumping and winding plant to it during the winter months. That difficulty has been overcome, and by the mail received yesterday we know that a contract has been made for sinking the shaft another 100 feet below the present depth of 212 feet. We have done an unusually large amount of prospecting work, so as to ascertain the position of the lode, in the different parts of the property. During this prospecting we have cut numerous reefs, but no driving has been done upon them to prove their value. There remains a good deal more prospecting to complete the exploration of our large areas; we shall continue this prospecting work, and we shall examine the new lodes we have cut to ascertain their value, but we shall direct our work mainly to those portions of the mine where we have the three prominent runs of gold, and thoroughly open up these golden areas. We shall follow the gold, and develop as largely as it is possible to do these sections of the mine which have a more immediate interest to the company. The new development in the "Battery Run" has added upwards of 160 feet to the payable ore previously known. We have now a proved distance of upwards of 850 feet on the line of reefs of payable gold, with great probability of the adjoining auriferous sections on the reef becoming payable at lower depth. The lodes are large, the quantities of payable ore are great, and the question of the future really is what are the best means for converting these masses of payable ore as cheaply and as rapidly as possible into bullion, and thence into the more portable shape of dividend warrants. To provide ore for both mills we are now breaking out the large reef in the "main run" for its whole width, and it is interesting to know the value of the large mass of ore we are thus handling. This experiment extends over several months, the stopes now cover a distance of 400 feet in the "main run." You will notice by the figures I shall presently give you how much the value of the ore varies in the stopes, though they adjoin, and in order that you may thoroughly understand it, I have extracted the following figures from the mine manager's report: For the month of August the second stope north was carried 150 feet north of the winze. The average assay value of the ore being £3 12s. 9½d. per ton. Third stope north was carried 50 feet north from the winze the average assay value of the ore being £8 5s. 7d. per ton. Second stope was extended to the south of the winze, 200 feet; the average assay value being £3 18s. 6d. per ton. Third stope was extended to the south of the winze 127 feet; the average assay value being £2 19s. 6½d. per ton. In September these figures varied in the same stopes, and the ore taken from the various stopes showed values of £3 1s. 3d., £3 9s. 2d., £5 15s. 5d., and £3 10s. 10d. per ton. It is interesting to know these variations, but we get a more correct view of the value of the whole lode from the fact that the whole of the ore sent to the large mill, up to date, has been 3,034 tons and its average value is £4 4s. 9d. per ton. In this section of the mine we have begun the work of exploring the lode at 100 feet below Corbett's Level. It was cut outside the "Main Run" and found to be 27 feet wide and of low grade, but driving north on the lode we soon ran into payable ore, and we believe when we get fairly into the "Main Run" the lode will present all the features of the reef in the upper levels. The "Battery Run"—The importance of the recent and new development in the mine known as the "Battery Run" claims a more extended notice than is given in the report. Facts when presented to the eye frequently are

more clearly grasped than by volumes of written description, and in order to make the facts of the position more clear to you I have had a diagram made which will show you the value of the Reef we are now driving on towards the south end of the property in the Battery level. In that reef we have two runs of gold—the "Premier Run" and the "Battery Run," which seem to rival in importance the value of the Main Run in the reef in Corbett's level. The reef in the battery level is of the best possible kind of stone; it is a "brown rubbly quartz," encased in a country rock of a "very favourable character." It ranges from 4 to 9 feet in size and is gold bearing throughout. The reef throughout the "Battery Run" averages six feet in width; considering that we are only 50 feet below the surface it must be regarded as a large sized reef—for the whole of the reefs we have had to deal with in the mine up to the present time have increased in size downward from the surface. The diagram before you is drawn to scale; the portion of it coloured red shows the gold bearing character of the rock throughout the whole length of the drive. The line drawn through the red colouring represents a value of 30s. per ton which for the purpose of this illustration I assume to be the cost of mining, milling, and management; it may be more, or it may be less, we shall know more of that after some experience, after we get the whole operation into settled working order, but I shall be much disappointed if it is more than 30s. With this explanation you will notice that the battery run is at present over 160 feet in length, all payable for that distance, and you will see by the higher blocks of red how rich some portions of this run must be. It ranges from £2 1s. per ton to £13 0s. 10d. It has an average value of £4 16s. 4d per ton. Continue your observation along the diagram, and you will see that the whole reef is gold bearing right through to its connexion with the "Premier Run." The "Premier Run," you will see, is of a highly payable character; the reef on the floor of the drive is left 8 feet wide of high class ore. These two runs of gold are connected by a reef which is auriferous throughout, and for a large part of the intervening distance you will observe is nearly payable—a level above, or a level below, may alter its character and make this part of the reef as good as either of the runs; and judging by the quality of the lode throughout, and by the character of the country rock in which it is found, and by the fact that in the intervening space the lode in several places comes nearly up to payable value, I have the most sanguine expectation of finding this reef largely payable at lower depths. Including the "Premier Run," we have now driven on this reef southward for about 500 feet, and we have still upwards of 1,200 feet in that direction within our boundary. The main shaft, you will see, is on the other side of the Waitekauri Creek, about 800 feet from the "Premier Run." Our first plan was to work the Premier Run from the main shaft by a deeper level driven from the shaft; but the discovery of rich ore in the Battery run, the quality of the reef throughout, and the great extent of ground we have on the side of the reef going south, will probably necessitate another shaft in a suitable place so as to command more expeditiously and cheaply the large quantity of ore which the reef contains—in fact, it means another mine. The new mill, with forty head of stamps, is now crushing over 1,500 tons per month; the small mill will average another 140, but we think we can certainly rely upon 1,500 tons from both. The new crusher, which should reach the mine by the end of the year, will increase the output of crushed ore. We have ample power for a larger mill of eighty stamps; but until we have further experience in milling the ore upon a large scale we shall not determine the kind of extension we shall make in the reduction works. We may put up more stamps, we may extend the reduction works in another direction, or we may do both. Mr. Barry has telegraphed to us that a large proportion of the ore is of a soft description and can be reduced without the resort to the slower and more expensive process of stamping, and we are sending out machinery which will deal more rapidly with this "large proportion" of the class of ore. We are moving quickly. No time has been lost, and as soon as we are satisfied on this point, milling extension will follow. The result of the first efforts at extraction of gold from the ore when treated upon a larger scale is not so satisfactory as we hope to make it later on. The Cyanide process is very valuable, but it is not applicable to every class ore in the same degree. There are some ores which require modifications of its use. We shall get knowledge and experience in this respect, and I confidently expect a better extraction from the ore than we are now getting. The wooden vats have been taking up gold, they will soon be charged with it and the absorption will not be so great. We look forward to better results. We have been contending with a long and severe winter, we have now entered on the New Zealand summer. Our expectations are that during the summer our works, our roads, and our position, in every respect, will be much improved. We have told you that the delays we have referred to are responsible for depriving you of dividends which might have been earned and paid before this, but we have made a good beginning. We do not make promises, nor must you take what I say now as more than a forecast of my expectations; we think our milling output will exceed 20,000 tons for the current year, reckoning from the time when we made a fair start with the large. We should make a profit of £2 per ton. I have little doubt of your receiving during the current year a quarterly dividend of 1s. per share, and I think as we get further on with our knowledge of the ore and method of treating it, and we get through greater quantities, and if the average value of the ore keeps up to what it is at present, we must earn a good deal more than that dividend; but the discussion of this question might lead me beyond the region of solid facts upon which we have always rested and upon which we wish to base our calculations for the future. With these observations I beg to move "That the Directors' report and statement and accounts for the year ended 31st March 1896, now presented, be received and adopted." Before I put this motion to you we shall be very glad to give any explanation which you may wish to have. (Applause.)

Mr. H. J. BRISTOW seconded the motion.

Mr. GRANT asked whether the reserve fund was to be used for the purpose of paying the dividend on the 11th inst.

The CHAIRMAN replied in the negative. They did not intend using the money placed to the reserve funds for dividends—for they would not pay dividends unless they earned them. They were now earning money very fast.

The resolution was carried unanimously.

Mr. SHAW-PHILLIPS moved the re-election of the auditor, Mr. C. J. Moore.

Mr. ROTHWELL seconded the resolution, and it was carried.

Mr. GRANT moved a vote of thanks to the Chairman, and said Mr. Russell had given them a very lucid statement. He certainly thought it was a matter for congratulation that by the first annual meeting such results should have been obtained. The operations meant a great deal of work, not only for the directors to do, but the members of the staff as well, and he was sure they would all testify gratitude to those concerned in the management.

Mr. GIBSON seconded the resolution, and it was carried.

The CHAIRMAN, in reply, assured the shareholders that the directors would do their duty in the same earnest manner in the future as they had in the past.

The meeting then terminated

VIOLET CONSOLIDATED GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of the shareholders in the Violet Consolidated Gold Mining Company (Limited) was held at the offices of the company, 85, Gracechurch-street, E.C., on Monday, for the purpose of considering and, if deemed advisable, confirming the following resolution:—"That the capital of the company be increased to £750,000, by the creation of 150,000 further shares of £1 each."—The Chairman (Mr. J. C. A. Henderson) said: Gentlemen—Since the last meeting we have been approached by buyers with regard to a certain portion of our property, and the matter is before the directors at the present time for their consideration. If the offer is accepted we shall not require the issue of further capital for the present moment, so that we have to ask you not to confirm the present resolution at this meeting.—The proceedings then terminated

WILSON'S AND CLYDE COAL COMPANY (LIMITED).

The annual general meeting of the Wilson's and Clyde Coal Company (Limited) was held on Tuesday, in Glasgow, Mr. John Wilson, M.P., presiding.—In moving the payment of a dividend at the rate of 12½ per cent. per annum, the Chairman said that though the result was only half that of last year, it was still satisfactory, in view of the keen competition which they had had to contend with in the foreign trade, a considerable portion of which was lost during the great strike of 1894, and had not since been recovered. Competition had not been keener for the last 30 years, nor prices lower. It was only by means of immense production that dividends were earned. Scotch coalmasters had also to compete with more moderate railway and shipping rates in Northumberland, Durham, and Wales.

EAGLE'S NEST GOLD MINING COMPANY (LIMITED).

The second ordinary general meeting of the members of the Eagle's Nest Gold Mining Company (Limited) was held on Wednesday, at Winchester House, E.C., when Mr. George T. Rait, who presided, in moving the adoption of the report and accounts, stated that the directors had devoted their attention chiefly to prospecting and development work. The calls on the shareholders had been very well met so far, and they must expect that the balance due on the shares—7s. 6d.—would be called up in the near future, in order to provide the money to pay for the battery and other capital expenses. They would then be in a very safe position, and he also hoped the mine would be making a profit. The previous day, Mr. Swan, the manager, cabled that the cost per ton of working the property would be 18s., and that everything looked well. It was their intention to cable to the manager instructions to proceed to Johannesburg to select, or rather to advise them as to the best plant he could get, while in this country they were inviting estimates for a 20 stamp battery. An assay plant had been already sent out.—Mr. Cox seconded the resolution, and it was carried.—Mr. George T. Rait was re-elected a director, and Mr. Arthur Goddard, auditor, the meeting concluding with a vote of thanks to the Chairman and directors.

HOLMAN'S LUCKY HILL GOLD MINE (LIMITED).

The statutory meeting of the shareholders in Holman's Lucky Hill Gold Mine (Limited) was held on Wednesday, at Winchester House, E.C., Mr. Hardie presiding.—The Chairman said Captain Dunstan, whose report on the property had been confirmed by Mr. Parrot, C.E., had been appointed consulting engineer, and from his own personal knowledge of that gentleman he could confidently testify to his fitness for the position. The development work which had been carried out had been attended with every success, as they had already opened up a large body of payable ore—seven samples taken by Mr. Parrot averaged 6 or 6½ ounces to the ton of gold, which had been sold by the original owners at £4 3s. per ounce. The question of machinery was having the very serious consideration of the board. He himself was of opinion that Holman's lode would last for many years, while, in addition, there were several other reefs which might possibly be of equal value. Mr. Holman, who discovered the property, believed that it was nothing but a network of valuable reefs.—A vote of thanks to the Chairman concluded the meeting.

LA YESCA GOLD AND SILVER MINES (LIMITED).

An extraordinary general meeting of the shareholders in the La Yesca Gold and Silver Mines (Limited) was held at Winchester House, E.C., on Tuesday, for the purpose of confirming the resolutions passed at the previous meeting providing for an increase in the capital of the company by the creation of 40,000 shares of 5s. each.—The Chairman (Mr. George Wills), in moving the confirmation of the resolutions, informed the shareholders that satisfactory arrangements had now been arrived at in regard to the debentures. The development of the property was being proceeded with as quickly as possible, and the directors believed that with careful management the company would yet prove a successful venture.—Mr. Major seconded the resolution, and it was carried.—A vote of thanks to the Chairman concluded the meeting.

NEW ST. AUGUSTINE (LIMITED).

An extraordinary general meeting of the shareholders in the New St. Augustine (Limited) took place on Wednesday, at the Cannon street Hotel, E.C., Mr. R. B. Johnson presiding, for the purpose of considering a resolution for the reconstruction of the company.—The Chairman, in moving the necessary resolution, said when the directors thought work was progressing satisfactorily at the mine they received the following cablegram, dated October 14:—"After washing about 100 loads yellow lumps, find it absolutely necessary to remove tailings, in order the lumps to crusher. This will take about 10 days." This cable led the directors to believe that something was wrong with the new plant, and it was clear that some additions must be made. In the meantime, however, they had various liabilities to meet, and under the scheme suggested it was proposed to make a liability of 2s. per share, which would produce £32,000 gross. As the mine was now thoroughly opened up and ready for work, this amount ought to be more than ample, and it might not be necessary to call up the final 6d.—After a short discussion the resolution was carried, and the meeting concluded with the passing of the usual compliment to the Chairman.

NORTH BOULDER EAST BLOCK (LIMITED).

The statutory meeting of the shareholders in the North Boulder East Block (Limited) was held on Wednesday, at Winchester House, E.C., when Mr. E. C. Haines, who presided, said their property, the area of which was 10 acres, was originally part of the estate of the North Boulder Company. Already the development work on the parent company's property had been attended with great success, and they hoped later on to share in that prosperity as well. They had had the advantage of the services of the staff of the North Boulder Company, and when the developments on their block justified the erection of machinery the two companies had agreed to put up a battery large enough to work the two mines. From time to time the manager—Mr. Henry Lyon—had sent home very encouraging reports, and recently he cabled as follows:—"The main shaft sunk 129 feet; well timbered. Two shafts, 100 feet and 56 feet, connected by crosscuts 115 yards, passing right through the property. Have cut the lode. One 2 feet wide, 10 dwts.; the other 8 feet wide, 4 dwts.—A vote of thanks to the Chairman concluded the meeting.

FAIRLIEY'S CREEK GOLD MINES (LIMITED).

The first ordinary general (statutory) meeting of the shareholders in the Fairliey's Creek Gold Mines (Limited) was held on Saturday, at the offices of the company, Dashwood House, E.C., when Sir James D. McKenzie, Bart., the Chairman, stated that the property was situated in the county of Bright, Victoria, and was 60 acres in extent. The whole of the 40,000 £1 shares issued were taken up, and £30,000 was set apart for working capital. The opinion of those who had examined the property was that there were two gold-bearing reefs running through it. Before the company purchased the mine 1000 tons of ore had been crushed, and yielded, without the tailings, 17 dwts. of free gold per ton. These crushings were carried out at a very old-fashioned battery. Captain John Walters, the mine manager, had reported that he had 500 tons of good stone ready for crushing, and a cablegram recently received was to the following effect:—"Developments are progressing most favourably. Tramway is completed to upper level. I am opening up No. 3 tunnel. In readiness for machinery. Probable estimate erection of 20 stamp battery, including crushers, £3500. Can get delivery immediately. Necessary plans ready."—A vote of thanks to the Chairman and directors concluded the meeting.

NEW QUEEN GOLD MINING COMPANY (LIMITED).

The sixth annual general meeting of the shareholders in the New Queen Gold Mining Company (Limited) was held on Thursday at Winchester House, E.C., Mr. Robert Milburn presiding.—In moving the adoption of the report and accounts the Chairman said:—The directors were very sorry not to be able to give the shareholders a more satisfactory account of the year's operations. A year ago the crushings were pretty regular—they were getting about 2 ounces to the ton. They continued to do fairly well up to December last, the stone averaging 1 ounce 13½ dwts. per ton. Then, unfortunately, the reef become smaller and of poorer quality, and they found it increasingly difficult to keep up the output. However, it was consoling to know that they were sinking to find the Brilliant reef, and a lode had been struck recently which was supposed to be the one they were searching for. In addition, in March last, another formation was opened up, and the quality of the ore obtained from this source was gradually improving. If it should happen that the Brilliant reef had now been struck they might consider that their prospects were better than they had ever been before.—Mr. John Wallace seconded the resolution.—Mr. J. Millican, of the firm of E. D. Miles and Co., the company's manager in the colony, also addressed the meeting, and gave a very hopeful view of the company's prospects.—The resolution was carried *nem. con.*—Mr. Robert Milburn was re-elected a director, and Messrs. Monkhouse, Stoneham, and Co., auditors, and a vote of thanks to the Chairman and directors concluded the meeting.

BREAKDOWNS OF STATIONARY STEAM ENGINES.*

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

UNDER the above title the chief consulting engineer of the Manchester Boiler Insurance and Employers' Liability Company (Limited) has contributed a statistical paper that will be of interest to all mining engineers. Breakdowns at mines are liable to be even more disastrous than at factories: In the latter case repairs are quickly executed, and in the meantime wages can be reduced by turning out men; but in mining districts repairs frequently involve waiting for the arrival of fresh parts, with the necessity of continuing to pay skilled hands, lest they should not be forthcoming when wanted, and withal the danger of the workings becoming flooded.

The statistics given are derived from 1000 breakdowns, with which Mr. Longridge has had to deal, and the suggestions, added for their future prevention, are the result of 20 years' experience in the inspection and insurance of factory engines. The primary analysis or classification supplied tabulates the parts that appear to have broken first, and numbers the cases:—

Valves and valve gear	213
Spur wheels	124
Air pump motions	121
Air pump buckets and valves	88
Columns, entablatures, bed plates, and pedestals	86
Main shafts	49
Connecting rods	41
Cylinders and valve chests	35
Parallel motions	35
Governors and governor gear	28
Piston rods	27
Piston rod cross heads	27
Pistons	22
McNaught and main links	22
Fly wheels	19
Air pumps and condensers	13
Cranks	12
Gudgeons in beams	12
Crank-pins	11
Beams	6
Ropes, tie-bars	3
Entire smash, no cause ascertained	1
Total breakdowns	1000

It is impossible here to dwell at length on the causes that, directly or indirectly, resulted in these accidents; but it is remarkable how many are attributable to structural defects and faulty designs. Thus most of the breakages in valves and valve gear, to which no cause could be assigned, were really due rather to inability to endure the ordinary conditions of work than to the action of any abnormal stresses. Spur gearing is clearly a fruitful source of accident. Indeed, the author states that if the driven wheels or pinions had been added to the driving wheels upon the engine main shaft, the breakages of spur gearing would have been nearly doubled. It appears evident that to place rope or belt drums of any considerable size upon shafts driven by spur gearing is nearly always dangerous. "In fact," says Mr. Longridge, "it may safely be stated that heavy rope or belt driving should never be placed in sequence to spur gearing, except after special investigation by a competent engineer, fully aware of the risk incurred." It is not, however, the writer's intention to follow in detail the many important suggestions contained in this paper. But the frequency of faulty fastenings, badly designed teeth, improper screw threads, insufficient bearing surfaces, the use of cast iron in place of steel, &c., &c., even in high-class machinery, show how vitally important it is that mining companies should not be in a hurry to order any machinery procurable on the spot, but, *festinando lente*, entrust the ordering and inspection of the same to competent consulting engineers. The *Pall Mall* of November 3, referring to a company, the shareholders of which are said to be hideously familiar with the word reconstruction, remarks:—"So late as September 2 we learned that the trial of the new machinery was most satisfactory, from which it was only reasonable to conclude that the treatment of 3000 loads weekly, as predicted by the management in February last, might be reckoned on. Instead of this, the board, without any attempt to justify their errors of management, coolly inform the shareholders that the new crusher, is not capable of doing the work expected of it, and, further, that the funds are exhausted." In the early part of this year the writer, asked to look into the affairs of a mining company since reconstructed, found that one of the chief causes of financial failure lay in the introduction of a large and badly-designed experimental plant, which, on the representations of the inventor, the directors had taken on themselves to order. In general, it is not that boards are by any means indifferent to the interests of their shareholders in this respect, but that, knowing little or nothing of the many mechanical problems concerned, they do not appreciate the difficulties and dangers involved in ordering plant, and regard the fee of a competent technical adviser as a needless expense. The presence of a technical element on every mining directorate would do much to prevent the recurrence of such mistakes as the *Pall Mall* records.

* A paper read by Mr. Michael Longridge, of Manchester, before the Institution of Mechanical Engineers, November 5, 1896.

The NUNDYDROOG COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £15,275 7s. 9d.

The BALAGHAT MYSORE MINES (LIMITED) has sold the gold obtained during the month of September last, which realised £652 14s. 6d.

The OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold produced in September for £18,939 14s. 5d.

The CHAMPION REEF GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold produced for £29,075 19s. 7d.

PARIS LETTER.

Colonial Mining Legislation.—Mining outlook in the French Colonies.—Revived interest in Westralia.—A spurt in Kaffirs and its consequences.

(FROM OUR OWN CORRESPONDENT.)

THERE is little that is definitely known of the mineral wealth of the French colonies, and still less of the means whereby these resources are to be turned to profitable account. If the opinions of explorers and others be taken at even a moderate valuation, there can be no doubt as to the existence of vast stores of minerals and metals awaiting development in various parts of the French possessions. But no really expert pronouncement has been made upon the approximate value of the mineral deposits, and this is probably one of the reasons why capital will not venture in this direction, for with the feeling of caution that pervades the investing classes no one is inclined to interest himself in colonial enterprises of which the prospects are not well assured. In Tonkin the coal mines are being profitably worked, mainly with foreign capital, under conditions that would certainly be thought too arduous and risky by French investors, and the colony is also believed to possess a large expanse of metalliferous territory that is lying neglected merely because the financial and other disabilities make the outlook far from encouraging. The phosphate deposits of Algeria are known to be the richest in the world, and would have brought considerable prosperity to that country had Messrs. Jacobson and Co. been permitted to continue their exploitation. But the firm being deprived of their concession we hear nothing more of the Algerian phosphates, and apparently capitalists still refuse to interest themselves in the inexhaustible mines of Algeria because "they are too far away." Yet no one hesitates to send money to engage in gold mining in the Transvaal, in Australia, or in Russia. Of Madagascar still less is known, nor is there any probability of the supposed gold deposits of that country being profitably developed for some years to come. This utter depression of mining enterprise throughout the French possessions is a matter of no little concern to the Colonial Minister, who is now devising means to facilitate the diversion of capital into the native mining industries. The promulgation of the new law in Madagascar was the beginning of a more liberal treatment of mining, and for the first time English capital has been permitted to take part in the development of a French colony. It is only to be regretted that this more enlightened attitude towards foreigners should not have been extended to other parts of the French dominions, for alike in the Soudan and in Algeria the English capitalist is still denied the right that is accorded to every Frenchman who wishes to establish himself in the British colonies. Still, the law as it relates to mining companies has been greatly modified in these regions of late, and if the other conditions were favourable it would be strange indeed if plenty of capital were not forthcoming to build up a flourishing industry. Unfortunately, these conditions seem to offer so many impediments that it is to be feared the efforts of the Government to favour colonial mining will be entirely nullified. While the home authorities have decided in many cases to facilitate the granting of concessions and to reduce the amount of royalties under the impression that, in the words of the Colonial Minister, "it is better to levy a small impost and receive the money regularly, than to impose high duties and never receive anything," the colonial bodies are still crushing the life out of the industry with heavy burdens, and what with the local and Government royalties, and the absence of transport facilities, the chances of making a profit out of mining are apparently small. That it can be done has been proved by the success of the British firms in Algeria, but the French capitalist will not undertake any mining development unless he is able to secure all sorts of guarantees, which the authorities are rarely disposed to concede to him. Under these circumstances, while the present policy of shutting out foreign capital is persisted in, it is to be feared that the outlook for colonial mining is not very encouraging.

If the French investor is inclined to scout the idea of placing his money in colonial undertakings, he is showing a more pronounced disposition to interest himself in foreign mining enterprises, and at the present moment there is a good deal of talk in some quarters of a probable early revival of investments in Westralian mining. Already a large amount of French capital has been sunk in these mines, and one or two of the financial bodies are making preparations to play a still more active part in the development of the Westralian deposits. A little while ago the Crédit Lyonnais sent a mining engineer to study the Coolgardie gold field, and it is announced that another expert, M. Chemin, who was dispatched on a similar errand by an Anglo-French syndicate, will arrive in Paris shortly, and should his report be favourable there is every probability that the Westralian shares will occupy a very prominent position on the Bourse, and that capital will be forthcoming for the financing of new undertakings.

There are not wanting indications that the early future will be favourable to the revival of mining enterprise, for there are plenty of authorities who affirm that the Paris market has seen the worst of the depression which has been hanging over it for some months past. A week ago Kaffirs seemed to be on the verge of a collapse, and the most gloomy forebodings were uttered as to the fate awaiting these shares. The market itself had been so thoroughly shaken by the reckless speculation that it was held to be incapable of withstanding the persistent bearing manœuvres that were directed against it, and as prices steadily dropped without any apparent reason those timid holders who had bought Rand shares at high rates began to realise. Rumours were rife as to probable failures at the settlement, and the opinion grew strongly that a collapse was inevitable. These pessimistic predictions, however, proved to be groundless, for the settlement has rarely passed off more quietly than it has done this week, and the speculators found no difficulty whatever in inducing bankers to carry over their accounts upon acceptable terms. One immediate cause of this better tone was the improvement that had taken place in Government stocks as the result of the announcement that the proposal to increase the duty on these securities was not to be put into effect. At the same time, the clearing of the political atmosphere and the result of the American Presidential election aided in strengthening the mining market, and the day after the liquidation the demand for mining shares was so satisfactory that prices advanced several points. Speculators who had been awaiting their opportunity began to purchase Kaffirs very freely, with the idea that the recovery had now fairly set in, and the Bourse was more animated than at any time since the craze of a year ago. The recovery, however, soon spent itself, for as soon as holders, who had been waiting to sell at higher rates, threw their shares on the market, prices dropped suddenly, and the speculative shares, such as Gold Fields and East Rands, have been freely offered. Still, the market has by no means entirely lost its confidence. Prices are appreciably higher than they were a week ago, and there is every probability that they will remain at this level for some little time. So many holders are anxious to clear out at the proper moment that any pronounced upward movement must continue to receive a check, and it is only when these superfluous shares have been absorbed that a permanent recovery is likely to set in.

OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED).

At a meeting of the directors of this company, held on Tuesday, it was resolved that an interim dividend (free of income tax) of 2s. per share on both preference and ordinary shares be, and is hereby declared, payable on December 9 to the shareholders on the books of the company on November 18, and that the transfer books be closed during the said November 18.

CORRESPONDENCE.

*** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

REMARKS ON THE ORIGIN OF ALLUVIAL GOLD.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Your correspondent, "Yeller One," in Central Africa, opens a question of much interest as to the relation of placer or alluvial gold to that found in reefs. A few remarks on this subject may not prove uninteresting to many of your readers; but while my remarks are applicable to the whole of Eastern Australia, the examples I shall give are those which have come under my notice in Gippsland.

As most of your readers know, gold is never found pure, but generally speaking is an alloy, containing from 60 per cent. of gold to over 99 per cent., the bulk of the remaining alloy being silver. In addition there is generally two or three parts of iron or copper in every 1000 of gold. The copper is present in the metallic state, but whether the iron is or not I cannot positively say. Now, as a general rule, the same line of reef has gold of nearly the same composition, the variation in the relative percentage of gold and silver being due to different chutes of auriferous stone.

A parallel reef only a few feet away may have gold, with 10 per cent. less gold and more silver present, and yet this reef will continue to carry gold of a lower standard wherever it crops out.

Sometimes a number of reefs in one district carry gold varying from 30 to 40 per cent., but, as a general rule, almost every field produces a bullion only varying a few per cent.

Now, as the alluvial gold, or gold found in the gravels and wash derived from the auriferous tracts, has practically the same standard as that obtained in the auriferous tracts themselves, we have the first strong argument in favour of the secondary formation of alluvial gold. It has been repeatedly stated that this alluvial gold is purer than that obtained from reefs, but such is not the case. It often happens, however, owing to contact with baser metals in battery treatment that a poorer alloy is formed, just as, on the other hand, we get a purer product with chlorination treatment. It had been stated that nuggets grew *in situ*, but such a belief could hardly be held if a close inspection had been made of masses of gold. Nearly all alluvial gold is "waterworn," the eroded and smooth gold denoting the passages of gravel, sand, and other material over it, wearing it down, beating it into rounded masses, or flattening it out in bran-like scales. Were it not for the crevices in the rocks and the soft bottoms of pipe clay, very little gold would escape the eroding influence of many of our streams. Though a digression from the subject, it would be interesting to know what proportion of gold is won from the alluvial in comparison with that shed from the erosion of country rock. And on this question I can only speak from actual experience and tests. Taking the amount of gold which exists in primary formations in quartz, dykes, slates, sandstones, &c., I should say that 50 per cent. of it at least will pass through a sieve having 50 holes to the linear inch. Now, from actually sieving some thousands of ounces of alluvial gold, I find that only 50 per cent. will pass through the same sieve, and that the gold left in the sieve is coarser than one meets with after years of inspection in reefs. Assuming all the gold shed to have been disseminated in the alluvial, it can be seen that 55 per cent. is lost in the shape of fine gold, and, taking the wearing down and eroding influences of sand in such a soft metal as gold, I feel sure that only a very small percentage remains to be gathered compared with what was shed.

Of course, a great deal depends on the configuration of the country. In Western Australia erosion would play a very important part.

I think, however, "Yellow One" will see that even if alluvial gold in any place is poor that it does not follow the reefs shedding the gold will be also. I could quote a dozen instances of examples where alluvial was poor, and yet the reefs below have been phenomenally rich and persistent. Stringers Creek was never noted for its richness, yet one mine on it has already produced 21 tons of gold, and an adjoining one is producing cakes of 2000 ounces per month. It is necessary, however, to bear in mind that almost all rich reefs are rich on the surface, and that it is only in very isolated cases that anything is struck at a depth, unless there were indications of good gold above. Nature, as a rule, has so denuded the surface for us that it would be sheer folly to confine operations to a limited amount of underground work, while there is no prospecting going on above. Bendigo was very rich in alluvial gold, and phenomenally rich reefs outcropped. Nature had stripped the surface off, leaving the golden level bare. Had this stripping gone on for another 1000 feet, the amount of alluvial may have increased, but the surface reefs would have been comparatively poor, and I doubt whether sinking would have gone on. Yet in this case splendid returns have been obtained at the 3000 feet level. Every field must be studied closely, and the relative conditions observed.

It is possible for gold to grow *in situ* in "leads," but I have never seen an example of gold so formed. I have seen gold in leads cemented with pyrites, but such gold was smooth and worn—nearly all gold contains pieces of quartz or crushed rock, and crystals or unworn gold are exceedingly rare.

As a general rule, reef or district which contain fine gold very seldom shed much alluvial gold that is recovered, while where much nuggetty alluvial gold has been obtained the reefs generally carry some class of gold.

But the strongest support in favour of the secondary origin of alluvial gold is that a practical prospector can tell by seeing alluvial gold whether it has been shed from a reef close at hand. The ragged edges, adhering pieces of quartz, the spongy nature, and the standard of the alloy serve as infallible guides to the source; and, in fact, in Gippsland we have an experienced body of men called loamers, who are very proficient in testing the loam or loose earth overlying the unaltered rock, and from the "loams" or colours of gold obtained are able to rapidly discover reefs hidden by many feet of surface soil. I will close this somewhat discussive letter with an actual example showing the importance of a close examination of gold. For some weeks five men were working on a small creek 10 miles from Bairnsdale, the gold obtained was not sufficient to even give them "tucker," but every speck of it was spongy, and many pieces had small pieces of quartz attached. As they were not experienced miners, I strongly advised them to give up fossicking for alluvial and search for the reef from which this gold evidently came. Fortunately for themselves they took my advice, and on their first day's reefing were successful in loaming right up to the cap of the reef, which proved to be a very good one, for each of the holders has been drawing a dividend of £400 per annum, and the amount of work done is as yet infinitesimal. Yet there are many instances where alluvial diggers will not look for a reef, and when the surface gold is extracted much valuable information will be lost.—I am, Sir, yours truly,

DONALD CLARK, Director School of Mines.

Bairnsdale, Victoria, September 26.

GOLD IN ENGLAND, AND ITS UNWROUGHT GROUND.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—The few samples tested by Messrs. Bawden, Liskeard, and Christo, Falmouth, both eminently practical assayers, are not proof that gold does exist in paying quantities in this country. Judging from analogous observations, I should not expect to find it in quantities of much value in or near copper and tin mines, but at varying distances from the granite into the clay slates and other schistose rocks, and even in the newer of these, as where organic remains occur lead ore often prevails, the metals throughout the mineral kingdom have their indifferent copper, so from observation and samples of gold rock from different parts of the world, the precious metal is accompanied by sulphur and argentiferous galena. Iron, of course, being the mother of all metals, the conglomerates of South Africa go far to bear out this hypothesis. Taking these conditions as a landmark, scientific research should be brought to bear on the large tracts of unwrought mineral ground of the West and other parts of England. Small workings made probably centuries ago, marking the outcrops of mineral veins, are to be seen in proximity to porphyry and other dykes and lodes, containing sulphur and argentiferous galena in small quantities, can be seen close to the surface, particularly along the Carnon Valley, reference being made in my initial letter on this subject to gold being found in considerable quantities by ancient streamers in working downward towards the River Fal. These facts are of important significance, as they establish satisfactory parallelisms between home and foreign gold-producing countries, this being the groundwork of the case; indeed, it is to be asked on the strength of analogy by what kind of reasoning it is possible to avoid such conclusions?—Yours faithfully,

CHAS. BAWDEN.

Poldice House, St. Day, Scorrier, Cornwall, November 2.

TE AROHA GOLD MINES COMPANY, LIMITED.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—As a subscriber and reader of your Journal in various parts of the colonies for many years, I should esteem it a favour if you would give publicity to the following information, which I hope may prove of benefit to shareholders and others concerned therein. I allude to the present operations and prospects of the Te Aroha Gold Mines (Limited). From my examination of what is known as the main reef, I should emphatically state it will never prove a paying lode, whatever present processes may be adopted. The lode in question is generally known as the "Buck reef," and it is well named, as it presents a most barren appearance. It is in some places 200 feet high and over 100 feet thick. It has been tried over and over again by English and American practical mining metallurgists, and in every case proved a dismal failure. I made numerous enquiries from experienced men who had worked portions of it, and had been prospecting the same for years, and who subjected the quartz to all kinds of treatment, and still failed. Many stated it would not go 1 dwt. to the ton. Gold in this district is 4s. to £2 15s. per ounce. I myself feel confident it will never pay, and in the face of this a tunnel is to be driven some hundreds of feet at an enormous expenditure of some thousands of pounds, to be large enough for a locomotive to travel, and thousands of pounds also in other gigantic works. The whole scheme is, in my opinion, absurd. And as for the proposed operation, it is only spending of money that could be more profitably employed for testing the other lodes, and winning the ore, and treating same cheaply. I cannot understand why such gigantic operations should be carried out upon such a small "show."—I am, dear Sir, yours faithfully,

LESLIE WERNER, Mining Engineer.

14, *Hobson-street, Auckland, N.Z.*

CARDIGANSHIRE NEW RAILWAY.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Great interest is attached by mining men and others to the new railway in contemplation from Aberystwyth to Devil's Bridge, Rhayder, to New Radnor, which will lessen the mileage to the Midlands and London by 40 miles.

Its advantages to the mining industry of this county and to the Lisburne group of mines are incalculable.

The proposed line of railway, starting from the junction at Trawscoed, will cross the river Ystwyth at Lanafan Bridge, pass up the north side of the valley at no great elevation from the river on its right bank for 3 miles through the Lisburne group of mines to the picturesque village of Pontrhydygroes, thence a slight detour towards the Frongoch Mines to Devil's Bridge (once visited by the late Grand Duke Constantine of Russia), afterwards following the contour of a valley near to Bod-coll, Tygwyn, and others of the Hafod group of mines, Cwmystwyth, Kingside, and on to Rhayder, making the connection at New Radnor.

This line of railway passes through the richest mineralised area for lead and blende in the county, and now, with a steady improvement, and more remunerative prices for metals, we are on the eve of brighter and prosperous days.

The construction presents no engineering difficulties, and the principal landlords give their greatest support, with every facility to acquire land at agricultural value, also mining setts on most favoured terms, indisputably the best in the United Kingdom.

As regards the port and town of Aberystwyth as a first-class watering place, with surrounding districts, this railway will be a great boon in way of transit of passengers and merchandise, &c., to Birmingham and London, enabling the journey to be made in two hours less.—I am, Sir, your obedient servant,

J. A. GARLAND, Mem.Soc.Arts.

Level-Faur, near Aberystwyth, November 3.

IT is announced that the reconstruction of the Zapopan Mines (Limited) has now been accomplished, and that the first batch of allotment letters in the new company, the Broken Hill Goldfields of the Northern Territories of Australia (Limited), have been posted.

WE learn that Mr. Cecil Hartridge, director of many of the companies of the Hauraki Group, has sailed for New Zealand. We understand that he is to make a thorough inspection of the whole of these properties, and will ultimately report to the shareholders thereon.

VICTORIAN GOLD ESTATES (LIMITED).—The first batch of letters of allotment and regret have been posted.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALASKA TREADWELL.—A cablegram from Alaska reports the clean up for the month of October as follows:—"Period since last return, 30 days. Bullion shipment, $61,304. Ore milled, 21,596 tons. Sulphurets treated, 376 tons. Of bullion there came from sulphurets, $21,494. Gross expenses for period have been $23,733."

ANGLO-FRENCH GOLD FIELDS OF AUSTRALASIA.—Cable, dated October 26:—"Have returned from the northern property. There are numerous quartz reefs on the property. Have uncovered on leases 1753 one mile from east banks of the south Alligator, and about 15 miles more or less from the south branch. Reef is 2½ feet. Samples taken fairly from cap of reef, at the top of hill 70 yards high, assaying 1 ounce 10 dwts. Country at surface rather unsettled. Men costeaning. Splendid auriferous drift of country. South blocks particularly studded with auriferous pyrites. Blows and reefs all through from east to west. Strike north and south. Water supply ample for all purposes in dry season."

BARRETT GOLD.—The mine manager cables per 4th inst.:—"October gold yield 410 ounces. Value, £1350. 800 tons are treated. 1909 tons ore mined and delivered at the works. The new dry crushing mill and additional cyanide plant will be completed and ready for working by November 7."

BALAGHAT MYSORE.—The company has received the following cablegram from Mr. Richards, viz.:—"278 ounces of gold obtained from 3000 tons of tailings."

BASS AND FLINDERS.—A cable from the manager, dated November 5, states:—"Struck a very rich body of ore. A new reef visible; free gold. Fresh development very valuable."

BENDIGO GOLD FIELDS.—The manager of the South Bendigo cables as follows:—"Since last report main shaft has been sunk 14 feet, total from plat 280 feet, and from surface 1070. Have stopped sinking, now making preparations for opening out on reef." He also cables in connection with Pick o' the Field:—"Erection of machinery completed and started running. The whole is working well."

BURMA RUBY.—The result of the mining for the month of October was 34,000 loads washed, producing rubies valued at 85,000 rupees.

CASSEL COAL.—A cable received gives the output for the month of October as 31,510 tons.

CHAMPION REEF.—Telegram from the mine, dated November 3, giving last month's return of gold as follows:—"7050 tons of stone produced 7405 ounces of gold; 2420 tons of tailings produced 599 ounces of gold; total production for the month 8004 ounces of gold. Cyanide will start during the week."

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—Translation of cablegram received from the manager of the Coongan Mine:—"Have cleaned up after crushing 102 tons of quartz, yielding 105 ounces. Recovered 60 ounces additional."

COROMANDEL.—Telegram from the mine, dated November 4, giving last month's return of gold:—"1300 tons of stone produced 709 ounces of gold."

CONSOLIDATED MURCHISON.—Crushed 530 tons, obtained 209 ounces of gold.

DUNDERBERG.—The following cable has been received from manager:—"Shall commence crushing ore November 15. The secretary adds that this slight delay in starting crushing has been occasioned by the late arrival of the Pelton wheel, concentrators, &c."

DAY DAWN BLOCK AND WYNDHAM. — Cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight ending the 31st ult.:—"Tons crushed, 1200; yield of gold, 1172 ounces; approximate value, £4050; fortnight's expenses, £2070."

DURBAN-ROODEPOORT. — The following results for October have been received by cable:—"Quartz milled 10,175 tons, 80 stamps, 28 days, 4369 ounces; tailings treated 7285 tons, 28 days, 1846 ounces; total, 6215 ounces."

ELEPHANT'S KLOOF.—Cable advice states: "Rich chute of ore north drift (Trichard's Luck), 56 dwts. per ton of 2000 lbs. The ore is improving in the drift as we advance."

EXPLORATION.—Cable from representatives at Johannesburg:—"Rose Deep (Limited) developments are perfectly satisfactory; expect to commence crushing nine months."

EAST WEALTH OF NATIONS.—The following cable has been received from the company's mine manager:—"Lease 1041. North shaft driven since cable 48 feet, making a total of 219 feet 2 inches. Driven 43 feet north on crosscut on goldbearing quartz.—Lease 1042. Shaft has now reached a depth of 126 feet."

FORBES REEF.—A telegram has been received from the mines stating that the result of the crushing for October was 102 ounces of gold.

GOLCONDA.—The following cablegram has been received from the mine manager, dated from Lake Austin, Western Australia, November 5:—"We have cleaned up after a run of 462 hours, 500 tons, 1181 ounces. An average sample of the tailings assayed 5 dwts. per ton. Fresh water wells making 50 gallons per hour; continue sinking."

GOLD FIELDS OF MYSORE.—The following cablegram has been received from the mine dated November 3:—"64 ounces obtained from 1500 tons sand."—Office note. The cyanide works being new probably a considerable amount of the gold contained in the ore is retained in the extractor boxes.

GREAT EASTERN COLLIERIES.—Cable dated Nov. 2:—"The output of coal for October 18,800 tons."

GRAND CENTRAL MINING.—The following cable has been received from the mine manager, giving the October output:—"3100 tons; estimate the yield at $90,000. Expenses will not exceed $35,000."

HANNAN'S "SIR JOHN FORREST."—The subjoined cable is to hand from the manager:—"Have put through a trial crushing, 11 tons 9 cwts. from prospecting shaft, adjoining old workings, yielding 22 ounces 2 dwts. 12 grains smelted gold; also 17 tons 4 cwts. 56 lbs. from the main lode—(word unintelligible)—yielding 11 ounces 17 dwts. 12 grains, without treatment of tailings. Woolcock (the mine manager) considers result most satisfactory, and anticipates being able to improve. Have sent full particulars by mail. Main shaft is now down 210 feet. The western crosscut has been advanced 28 feet, total from shaft 100 feet.—No. 3 shaft. The crosscut east has been extended 16 feet, total 45 feet."

HANNAN'S BROWNHILL. — A cablegram received in London states:—"Crushed 254 tons of 2240 lbs, yielding 686 ounces of gold."

HARMONY GOLD AND LAND. — The manager cables from Pietersburg as follows:—"Railway crosses our farm. President Kruger has fixed railway terminus abutting on south-east side of our farm. It is very favourably situated for us, and will answer our purpose excellently. Work will be speedily commenced

HENRY NOURSE.—Results for October: "Mill ran 31 days, 60 stamps crushed 9184 tons, produced 5097 ounces, 5760 tons cyanide produced 2027 ounces, total 7124 ounces."

IMPERIAL WESTERN AUSTRALIAN CORPORATION.—A cablegram has just been received stating that the main shaft on Hesperus Extended lease (Kalgoorlie) has been sunk to a depth of 100 feet and timbered, and that the mine continues to improve. New winding machinery has arrived.

IVANHOE.—A cablegram received from Melbourne, dated October 31, states:—"During the past four weeks we have crushed 230 tons for a yield of 801 ounces of gold."

JACKSON EXPLORATION AND DEVELOPMENT.—The company has received the following cable message from their general manager in California regarding the Amador Queen Mine No. 1:—"Commenced sinking October 31."

KOFFYFONTEIN.—The Koffyfontein Mines (Limited) inform us that their returns for month of October are 4000 carats.

LUCKY GUSS (Cripple Creek).—Cable received from the mine manager, dated November 4:—"Mine is looking well. Ore is improving in the drift as we advance towards the Orpha May. I will at once start lower crosscut."

MOUNT ZEEHAN (Tasmania).—The following cablegram has been received from Hobart, dated November 4:—"No. 8 lode, No. 3 level south, shows 6 inches of first-class ore, and 12 inches of second-class ore for mill."

MARBELLA IRON ORE.—The directors have received the following telegram from the mines:—"Output of ore for October 1027 tons."

MENZIES CONSOLIDATED.—Cable information has been received from Mr. Weekley, the manager at the mines, to the following effect:—"Princess Eva Claim. 100 feet level, north drive 85 feet, lode 5 feet wide, worth 2 ounces gold per ton.—Princess May Claim, 160 feet level. Have cut a body of ore assaying 2 ounces gold per ton, 3 feet wide.—Royal Group. Ore at grass 410 tons. Average of eight assays is 3 ounces 11½ dwts. gold per ton."

MENZIES CRUSOE GOLD CLAIMS.—Cable information to the following effect has been received from Mr. Jowett, the manager at the mines:—"Important developments. Intersected lode bottom. Crosscut to the west from G shaft composed of diorite, quartz intermixed. Stone carries pyrites, and shows gold; assay value per ton, two samples, 19 ounces."

MOUNT LYELL MINING AND RAILWAY.—The following cable, dated the 4th instant, has been received by this company's London office from its head office at Melbourne:—"During the four weeks ending October 22 a total quantity of 4287 tons of ore has been treated, assaying copper 4½ per cent., silver 2 ounces 11 dwts. per ton, gold 3·62 dwts. per ton, resulting in the production of 302 tons of converter matte, containing silver 10,317 ounces, copper 170 tons, gold 788 ounces. Furnaces Nos. 1 and 2 totalling 42½ days."

MYSORE REEFS (Kangundy).—Telegram from the mine, dated November 6, gives last month's return of gold:—"382 tons of stone produced 203 ounces of gold."

MYSORE WEST AND MYSORE-WYNAAD CONSOLIDATED.—Tank Block. The manager cables the result of crushings for the month of October as follows:—"After a mill run of 612 hours, 1400 tons, 371 ounces of gold."

MYSORE REEFS.—October return:—382 tons, 203 ounces.

MYSORE.—The company has received a telegram from the mine giving the return of gold for the month of October as follows:—5290 tons of quartz produced 7935 ounces of gold; 4405 tons of tailings produced 1142 ounces of gold; 1820 tons of tailings (cyanide process) produced 254 ounces of gold; total production for the month, 9331 ounces of gold.

MAYFLOWER.—The manager cables for authority to crush 100 tons of ore in the neighbouring battery, which he expects will yield 5 ounces of gold per ton.

MAORI (Menzies).—"Clean up from 45 tons gave 790 ounces."

MENZIES "CRUSOE."—Cable information has been received from the manager at the mines to the following effect:—"Clean up No. 8. Hours run 556, tons crushed 520, yield smelted gold 1137 ounces, tailings assay 7 dwts. Stone from Robinson Crusoe and Crusoe East claims. Have commenced to drive on the lode crosscut to the west from G shaft."

MONTANA.—By cablegram from the mine the directors are informed that the total output for October was 6400 tons of ore. Gold obtained 4270 ounces, silver 20,960 ounces. The estimated realisable value of the same is $99,100.—Expenditure. Working expenses on revenue account $22,100, outlay on developments $12,300, outlay on Blue Bird and Hickey Mine $400, extraneous expenses, including taxes, $4300, permanent improvements and machinery $200, equals $32,300; estimated net result $59,800. The large increase in the estimated realisable value of the return, as compared with the last few months, is due to the clean up of the plates, consequent on closing of the mills at the end of the month.—N.B. Monthly returns in this form will be discontinued so long as the mills are closed. Mr. Bayliss arrived at the mine on the 1st inst.

NUNDYDROOG.—Telegram from the mine giving the return of gold for the month of October:—"3950 tons of quartz produced 3984 ounces of gold; 600 tons of tailings produced 97 ounces of gold; total production for the month 4081 ounces of gold."

NEW OPTIONS.—The following telegrams have been received from the superintendent, Mr. T. G. Davey, dated Harrietville, October 21:—"Monarch. Have struck a pocket of very rich ore, main shaft, at a depth of 100 feet, very similar to previous seam. Will telegraph again in the course of a few days." And dated Harrietville, November 3:—"Shaft has reached a depth of 110 feet. Continues in high grade ore. The width of the vein 6 feet, roughly estimated at 5 ounces per ton. We are now crushing ore from the Monarch, looking well."

NIGEL.—Cable dated November 3:—"Last month's crushing yielded: Battery, 1076; cyanide, 1161; total, 2237.

NEW COOLGARDIE GOLD EXPLORATION.—A cablegram has been received as follows:—"Pearce pegged additional 36 acres; total, 84 acres.—Dundas. Have struck rich ore near the surface. The width of the reef is 3 feet. Stephenson visiting."

NEW CHUM.—The following cable is to hand from the manager:—"Since last report the winze from No. 7 level, 110 feet east of main shaft, has been sunk 27 feet, total depth 107 feet. At bottom of winze favourable change has taken place. In No. 3 level in driving north have cut the reef. Quartz is 6 inches wide, showing gold, and it improves at each breakdown of stone."

NORTH BOULDER.—The following cable has been received from the mine manager, dated November 2:—"332 ounces of gold from 133 tons crushed. Assay of tailings, 10 dwts."

OOREGUM.—Telegram from the mine dated November 3, giving last months return of gold as follows:—"5930 tons of stone produced 4296 ounces of gold; 5313 tons of tailings produced 741 ounces of gold. Total production for the month 5037 ounces of gold."

PESTARENA UNITED.—Gold return for October: "520 tons of ore producing 689 ounces of gold, equal to 1 ounce 6 dwts. 12 grains per ton."

ROYAL SOVEREIGN.—The following cable has been received from Coolgardie:—"Struck another lode east crosscut 200 feet level, 2 feet in width, carrying fine gold,"

ST. JOHN DEL REY.—The following telegram has been received from Mr. Chalmers:—"Produce for October 32,500 oitavas, equal to 3746 ounces troy, value £12,594, yield per ton 5 oitavas (·57 ounce troy.")

SOUTHERN NEW CHUM.—The following cable is to hand from the manager:—"Since last report main shaft has been sunk 20 feet, total from plat 267 and from surface 427 feet. At No. 1 level north driving on the Lawrence reef, the quartz is 10 inches wide, and shows great improvement. The reef appears to be getting stronger, and shows gold freely. Now taking out crushing, result of which will be cabled."

SANTA ANNA.—Produce for the month of October, 144 ounces. This return has been obtained from the mineral left over from the Don Pedro Mine and crushed by the five head mill.

SAN SALVADOR SPANISH IRON ORE.—The s.s. *G. E. Wood* sailed from Santander on the 29th ultimo with 1280 tons of this company's ore for Rotterdam.

SHEBA.—The following cablegram has been received from the general manager for the month of October:—"3300 tons of ore, 4125 ounces; 2550 tons of tailings, 1422 ounces; 91 tons of concentrates, 805 ounces; total, 6352 ounces. The mill has run 23 days. Water very scarce."

TWIN LAKES PLACERS. — The manager reports the following results for October:—Cubic yards of gravel washed 57,000. Square yards of bedrock exposed 11,500. Square yards of bedrock cleaned 16,000. Estimated value of bullion produced $12,200.

TOLIMA.—The following cablegram has been received from the acting superintendent at the mines:—"Estimated October returns, £5700; estimated October profit, £1800."—P.S. In this return fine silver is valued at 2s. 9d. per ounce.

UNITED IVY REEF.—During September the mill worked 17 days 22 hours, crushing 988 tons, which yielded 450 ounces 8 dwts. Cyanide produced, 129 ounces, and concentrates 35 ounces, making a total yield for the month of 614 ounces 8 dwts.

UNITED MINES (Bultfontein).—The yield of diamonds from this mine since the date embraced in the annual report (June 30, 1896) to October 3 last amounts to about 20,700 carats.

WHITE FEATHER EXTENDED.—Copy of cable received from mine manager, dated 3rd inst.:—"Main shaft is now down 90 feet. Northerly 61 feet, west 95 feet. Have intersected vein; high grade ore body in the main shaft."

YALGOO PUBLIC BATTERY.—The following cable, dated November 4, was received from the company's agents, Messrs. F. W. Prell and Co., Melbourne:—"Have started pumping and winding machinery. Mine is looking well all round." The following information has been received by cable from Mr. James McTear, one of the directors of the company now at Yalgoo, superintending the erection of the battery:—"Have started hoisting engine. Good progress is being made. Battery in course of erection; will be completed towards the end of December. Low grade ore in abundance in sight. Some rich chutes of ore, rich in visible free gold. Impossible to sample the reserves of ore. Samples taken from where the gold was not visible gave pannings fair results. Tonnage of ore stored on dump 600 tons. Water is available."

EAST RAND PROPRIETARY MINES.

The following circular has been sent to the shareholders:—The London committee of the East Rand Proprietary Mines (Limited) have received cable advice from the head office in Johannesburg that a meeting of the shareholders will be held on Monday, December 14, to sanction an increase of the capital by the issue of 100,000 new shares. This issue has been guaranteed at £4 10s., for which the guarantors receive no option nor any consideration whatsoever. The shares will be offered *pro rata* to all those registered on the books of the company on December 14—*i.e.*, that every holder of 7½ shares will have the right to subscribe for one new share at £4 10s., but no fractions will be allotted. A holder, therefore, of 100 shares would be entitled to an allotment of 13 new shares. The necessity for the increase of capital has arisen through the following facts:—When the Comet, Angelo, and Driefontein Companies were floated the basis of calculation was made in each case on a 40 stamp mill with cyanide works, &c., to correspond. As a result of further development the boards decided, on the advice of their mining experts, to erect larger mills and cyanide works. They were advised that by such means working expenses would be materially reduced, and the ore treated to greater advantage. As a result, in place of 120 stamps for the three companies, 320 stamps are now in course of erection, necessitating a corresponding increase in the size of cyanide and other accessory plants. Further, the equipment of certain main incline shafts is being carried out on the Blue Sky and Cinderella Companies ground. The East Rand Company proposes for the present to advance the funds for these additional works to the subsidiary companies. Under the agreements by which the East Rand Proprietary Mines (Limited) purchased the assets of the H. F. Syndicate, the H. F. Syndicate has the right to participate to the extent of 25 per cent. in all distributions after £650,000 has been paid back to the East Rand shareholders, and you will notice from the second resolution your directors have obtained under a provisional agreement an option to liquidate this lien on terms which they consider very satisfactory to this company.

COMPANY ANNOUNCEMENTS.

THE OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED).

6 and 7, Queen Street Place, London, E.C.,
November 3rd, 1896.

AT a MEETING of the DIRECTORS of this Company, held today,

IT WAS RESOLVED—

"That an Interim Dividend (free of income tax) of 2s. per share on both Preference and Ordinary Shares be, and is hereby declared, payable on the 9th day of December, 1896, to the Shareholders on the Books of the Company on the 18th November, 1896, and that the Transfer Books be closed during the said 18th November."

JOHN GARLAND, Secretary.

N.B.—This Dividend will make the amount paid for the first eight months of the year 1896 4s. per share on the Ordinary Shares, and 6s. per share on the Preference Shares. The balance Dividend will be payable in April next.

LA CAMPANA MINING COMPANY.

NOTICE IS HEREBY GIVEN, that a GENERAL MEETING of Shareholders will be held at Winchester House, London, E.C., on THURSDAY, the 19th inst., at Two o'clock, when the Vice-President of the Company, the Hon. Brewster Cameron, will address the meeting, and give some particulars as to the present position and future prospects of the Company. By Order.

Metropolitan Chambers, Broad Street, E.C.,
November 6, 1896.

NOW READY, IN ONE VOLUME, MEDIUM 8vo, 350 PAGES, WITH 28 PLATES AND NUMEROUS OTHER ILLUSTRATIONS, INCLUDING UNDERGROUND PHOTOGRAPHS. 15s. CLOTH.

COLLIERY WORKING AND MANAGEMENT:

COMPRISING

THE DUTIES OF A COLLIERY MANAGER, THE OVERSIGHT AND ARRANGEMENT OF LABOUR AND WAGES, AND THE DIFFERENT SYSTEMS OF WORKING COAL SEAMS.

By H. F. BULMAN and R. A. S. REDMAYNE.

LONDON: CROSBY LOCKWOOD AND SON, 7, Stationers' Hall Court, Ludgate Hill, E.C.

L. LePersonne and Co., London.

Telephone, No. 15,144. Telegraphic Address: "Lepersoane, London." Codes, A.B.C., McNEILL, MOREING.

MINERAL, METAL, IRON AND TIN PLATE MERCHANTS AND BROKERS.

Contracts negociated. Buying or Selling Agencies solicited Zinc, Lead, Silver Lead, and Copper Ores' offers specially invited Buyers of Ashes, Dross or Residues containing Lead, Zinc, Copper, or Silver.

EXPERIENCED AGENTS appointed in the COLONIES and FOREIGN MARKETS where not represented.

C. PASS & SON (Limited), BRISTOL,

ARE BUYERS OF

LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c. and DROSS or ORES containing TIN, COPPER, LEAD, AND ANTIMONY.

ROBERT HAY ANDERSON,

MINING ENGINEER,

M.Am.Inst.M.E., M.N.Eng.Inst. M. and M.E.,
APARTADO 863, CITY OF MEXICO, MEXICO,
EXAMINES and REPORTS ON MINES in the REPUBLIC OF MEXICO.

Cable: "ANDERSON, Mexico." Code: Moreing and Neal.

JAMES STEPHENS,

BLACK VALE SMELTING WORKS, SWANSEA.

CASH BUYER OF

TIN ORES, TIN ASHES and TIN SLAGS, LEAD and TYPE ASHES, and all residues containing TIN and LEAD.

MAKER OF

TINMAN'S & PLUMBER'S SOLDER & TERNE METAL TO SPECIFICATION.

Bankers: Glamorganshire Banking Company, Ltd., Swansea.

BRITISH GUIANA.

J. DOUGLAS HAY., F.G.S.,

Assoc.Inst. Mining and Metallurgy,

MINES REPORTED ON.

Apply to Messrs. CHARLETON and Co.,
DASHWOOD HOUSE, E.C.

LAMBERT'S WHARFAGE CO.,

PRINCE OF WALES DOCK, SWANSEA.

Ores, Mattes Regulus, and Bars received and prepared for market. Copper, Lead, Tin, Spelter, and Pig Iron Received, Weighed, and Sampled, and Warrants issued against same.

N.B.—Warrants are on Accepted List of London Metal Exchange. Regular lines of steamers from America, Europe, &c.

Good prices can be obtained for low produce Copper Ores. Send fair samples of not less than half a pound.

THE AUSTRALIAN GOLD RECOVERY COMPANY (Limited).

(MACARTHUR-FORREST PROCESS.)

All information and terms regarding Plants and the Licensing of this Process can be obtained on application to:

THE AUSTRALIAN GOLD RECOVERY CO. (Ld.), 23, College Hill, London, E.C.

JAMES R. FOWLER, Esq., 14, King William Street, Adelaide; or

GORDON WILSON, Esq., The Australian Gold Recovery Company (Limited), Charters Towers, North Queensland.

AGENTS FOR THE CASSEL GOLD EXTRACTING COMPANY'S MANUFACTURES OF HIGH GRADE CYANIDE.

WESTERN AUSTRALIA.

MERCHANTS AND FORWARDING AGENTS.

J. H. MONGER AND CO. (LIMITED) are prepared to RECEIVE CONSIGNMENTS of MACHINERY and GENERAL GOODS for clearance through Customs at Freemantle, and despatch to the Gold Fields.

Having houses both at Coolgardie and Kalgoorlie, they possess unusual facilities for despatching from there either by Waggons or Camels to any part of the Eastern Gold Fields.

They are in a position to despatch all consignments expeditiously from Freemantle, and from Coolgardie or Kalgoorlie.

Head Office, Coolgardie.
Branches, Freemantle. Kalgoorlie.
Reference, Western Australian Bank.

London Agency, 11, Leadenhall Street, E.C.

THE BUTE WORKS SUPPLY COMPANY,

133M, BUTE DOCKS, CARDIFF.

Telephone: No. 45 (Post Office and National).
Telegrams: Gething, Cardiff.

RAILS.—Bridge, Flange, Double Head, and Bull Head, with or without fastenings.

SLEEPERS.—Wood and Steel for all gauges.

EARTH WAGONS.—30-inch gauge, end and or side tipping, £5 each, at Cardiff. Steel Wheels and Steel Axles.

PORTABLE RAILWAY.—£11 per 100 yards of railway 30 inch gauge, and £30 per 100 yards of railway 39⅜ inch (1-metre) gauge, both complete and ready for laying.

RAILWAY COAL WAGONS.—(New and Second-hand) For Cash, Redemption Hire or Simple Hire. Quick delivery can be made of perfectly new, and almost new latest regulations.

LOCOMOTIVES.—Six wheels coupled, by Manning, Wardle, and Co., 12 inches by 17 inches, now near Cardiff; also six wheels coupled, by Avonside Engine Company, 14 inches by 20 inches, now at Cardiff; also six wheels coupled, by Sharp, Stewart, and Co., 17 inches by 24 inches, now near Cardiff; all recently thoroughly overhauled, and ready for instant work; cheap for cash, or three years' redemption purchase.

Full particulars on application.

The Mining Journal,

RAILWAY & COMMERCIAL GAZETTE.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

ALL OVER THE WORLD,

Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical Engineers, Manufacturers, &c., &c.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE has correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan.

THE MINING JOURNAL is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator, or syndicate; and it is in no way connected with any share-dealing agency.

TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on *one side of the paper only*. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.

TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage, is for:—
The United Kingdom, £1 4s.;
Abroad, £1 8s.;
payable half-yearly in advance. It can be purchased at all Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.

CHEQUES and POSTAL ORDERS should be PAYABLE to the PROPRIETORS, crossed LONDON AND WESTMINSTER BANK.

TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising:—Companies' Prospectuses, £12 12s. per column, or £30 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 8d. per line with a Minimum charge of 4s.

Displayed (Trade) Advertisements of 2 inches in depth (or more), Single Column measure, will be inserted at the following rates:—For 52 insertions 2s. 6d. per insertion for each inch in depth; for 26 insertions 3s per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion for each inch in depth. Terms for special positions and contracts may be had on application.

. ADVERTISEMENTS (which should in all cases be sent direct to THE BUSINESS MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 8 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.

REPRESENTATIVE IN

VICTORIA: J. J. RENDLE, 369, Collins Street, Melbourne.
NEW ZEALAND: W. F. McWILLIAMS, Thames.
SOUTH AFRICA: O. SACERDOTE, Gerson's Buildings, Johannesburg.
GERMANY: F. E. CLOTTEN, Komödienstrasse 9, Köln a. Rh.
NEW YORK: CHARLES MILES, 179, Washington Buildings.

Editorial and Advertisement Offices:
18, FINCH LANE, LONDON, E.C.

Telegraphic and Cablegraphic Address: "TUTWORK, LONDON."
Codes used: "A.B.C.," Moreing's, and "Universal."

CONTENTS

Of this Number of "The Mining Journal, Railway and Commercial Gazette," November 7, 1896.

NEW PATENTS ... 1405
CONTRACTS OPEN ... 1405
JOINT STOCK COMPANIES—New Registrations ... 1405
VEIN WALLS ... 1406
OUR SOUTH AFRICAN LETTER ... 1406
THE WEST AUSTRALIAN MINING INDUSTRY ... 1407
TIN TICKETING ... 1407
MINING IN VICTORIA ... 1408
MINING IN NEW ZEALAND ... 1408
MEETINGS OF MINING COMPANIES—
Rushen Mining Company, Big Golden Quarry Mining ... 1409
Antioquia (Frontino) Company, British Colonial Mining ... 1410
White Horse Gold Mining, British South Africa Company ... 1411
W. Australian Venture Syndicate, Waitekauri Gold Mining ... 1412
BREAKDOWNS OF STATIONARY STEAM ENGINES ... 1413
CORRESPONDENCE ... 1414
LATEST FROM THE MINES; Cablegrams and Telegrams ... 1415
LEADING ARTICLES—
Consolidated Gold Fields of South Africa ... 1416
Justice to Westralia, British South Africa Company, A Year's Mining in Tasmania ... 1417
Laying the Silverite Spectre, The Cyanide Patent Case, Coal Boring at Dover, Johnson Miners' Safety Lamp, British Colonial Mining Corporation, The White Horse ... 1418
THE MINING MARKET ... 1419
THE METAL MARKETS—
The London Metal Market ... 1419
DIARY FOR NEXT WEEK ... 1419
"THE MINING JOURNAL" SHARE LIST ... 1420 1421
TREATMENT OF COPPER ORES ... 1422
THE CYANIDE PROCESS ... 1422
THE WESTRALIAN PREMIER GOLD MINES ... 1423
REPORTS FROM THE MINES ... 1423
METAL TRADE STATISTICS ... 1426
METAL CIRCULARS ... 1427
PROVINCIAL SHARE MARKETS ... 1427
MINING IN CORNWALL AND DEVON ... 1428
ADVERTISEMENTS—(*See Index to Trade Advertisements*, p. 1402).

LONDON: NOVEMBER 7, 1896.

CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA.

THE immediate effect of the publication of the report of the directors of the Consolidated Gold Fields of South Africa was a fall in the price of the shares. That there was any justification for this cannot be admitted; the natural consequence should have been a brisk demand for the shares, with a corresponding rise. But it all proves in what an extraordinary condition the market is when the law of cause and effect is so completely defied. It also proves how utterly futile it would be to attempt to forecast, even for a day, the course of the market, for it is impossible to estimate the circumstances and influences which may bring about the greatest surprises. The report cannot be considered as other than most satisfactory, not only in respect of the results of the year's operations, but as a forecast of what is likely to be accomplished in the future. In our summary of the report last week we showed that the realised net profit on the year's workings after deducting debenture interest and all outgoings, was a balance to credit of £1,119,726 6s. 8d. Out of this the dividend on the preference shares has been paid, together with an interim dividend of 10s. per share on the ordinary shares, leaving, together with the amount brought forward from last year, a balance still available of £1,946,053 1s. 6d. The directors further recommend a final dividend of 15s. per share, making 25s. for the year, and that £200,000 be added to the reserve fund, leaving a balance of £1,303,203 1s. 6d. to be carried forward to the credit of the current year. In addition to this, the company's share investments show on current prices a further large unrealised profit. It needs no reiteration that the company's principal holdings are in the deep levels, and that its future, therefore, is chiefly tied up with this class of property. In all likelihoods this accounts in a great measure for the weakness in the shares, for confidence in the future of deep levels has been greatly shaken, and not a few look upon them as doomed to failure. It is quite natural, therefore, that investors should lose their faith in the future of the Consolidated Gold Fields, and should be in doubt whether the company is likely to equal past successes in the years to come. That we do not think there is any justification for this pessimism we have more than once observed, for we consider it unreasonable to allow one failure to foredoom the failure of the whole. But one of the company's most important holdings is in an outcrop company—viz., the Simmer and Jack, the prospects of which can only be described by the adjective magnificent. Mr. V. M. CLEMENT, the late manager, has furnished a most interesting report upon the property, in which he estimates the ore reserves at the grand total of 592,194 tons. In this expert's opinion the natural conditions of the Rand in the future will considerably reduce working costs, and hence the Simmer and Jack is likely to materially benefit from this. But the company's holding in the Gold Fields Deep is its most important interest, and as this company possesses vast assets in some of the best portions of the Witwatersrand, it goes without saying that it is one from which the company is likely to derive considerable profit in the future. The report of the directors concludes with a lengthy paragraph upon the condition of the Rand mining industry, which is a true description, and one which should encourage everyone to look to the future with hope. We repeat that we can see no reason for the present weakness in the company's shares, nor for the uncertainty with which its future seems to be regarded. On the contrary, we think there is every cause for congratulation, and certainly much ground upon which to build encouragement.

As usual, the directors accompany their report with one from the pen of Mr. JOHN HAYS HAMMOND, an expert who has written long treatises upon deep levels, and whose opinion of their future is consequently well known. But the report before us is not so lengthy as usual, probably because he has exhausted nearly all he has to say upon the subject, and because he contents himself with quoting at considerable length from the highly favourable report of Dr. BECKER. The latter's report is, of course, a very valuable one, and as he endorses the opinions of the most eminent experts who have studied the subject, it is only natural to expect that it should remove much of the pessimism which has seized upon the minds of so many investors. The doctor commences his report with a few general observations upon the mining industry in general, and gives it as his opinion, one upon which everyone has long been agreed, that economical working is vitally essential to any large measure of success, and predicts that in the future such conditions will prevail as to permit of greater economy being introduced than in the past. And then he adds this significant utterance, one with which everyone will be inclined to sympathise:—"There is, to my mind, no doubt that if dynamite and freight charges on coal were at reasonable rates, and if the labour were better and better economised, the Rand mines could now mine and mill ore for 18s. per ton." To this he gives most judicious advice to the Government, though it is only natural to expect that it will be ignored with the ignorant obstinacy which characterises its dealings with the industry on which the welfare of the Republic mainly depends. We know now, however, that labour has been economised, and though the action gave rise at the time to grave misgiving in the minds of many, it has caused little or no trouble, and the reform bids fair to work peacefully to the great advantage of the industry. This, in itself, should induce the public to give greater support to the South African market, but if the depression be the consequence of an extensive bear movement—of which a great number are convinced—in order to force values to that level at which the great houses can pick them up for future profits, then any encouraging reforms of this kind are not likely to have, at present, any far-reaching effect, or to relieve the weakness which has spread so deep a gloom over the market. Dr. BECKER's arguments that the expense of working the deep levels is not likely to be so great as to leave no margin for profit are so similar to our own that there is no need to quote them at length. "It is clear," he says, "that for mines operated on a large scale the increase of expense due to depth alone, in the absence of unfavourable conditions, is of little consequence." The chief obstacles to be feared are impoverishment of the ore, troubled ground or dykes, influx of water, and high temperature, and he comes to the conclusion that "there need be little fear of any sudden or rapid impoverishment of the ore within any depth to which mining can be carried on. The experience in the outcrop mines shows to a demonstration that both the reefs grow flatter in depth, and, which is quite as important, that the amount of curvature decreases, so that the reefs tend to become uniformly inclined. On the surface it is also found that to the southward of the Main Reef the dip of the sandstone and shale beds generally decreases with distance from the croppings." The irresistible inference follows that the flatter and less curved the reefs become, the fewer and smaller will be the faults, the only conclusion which can be deduced from a well-known law of nature. Speaking upon the all-

important question of water, which, in more than one instance, has compelled the abandonment of the workings, he thinks there need be no great anxiety on this point, as "the supply of water from which influx into the mines is to be dreaded is practically small. Even of this amount only a small portion actually reaches the workings, for the strata are almost impermeable, and it is only along some of the more open fault faces in the hanging wall that water can be observed to flow." As regards the increase of temperature he, like ourselves, sees no obstacle in this, remarking that all the known facts point to the conclusion that the expense of mining will not be seriously increased from this cause until the vertical depth reached is at least 3500 feet, while it may turn out that the temperature will not be exhausting until the mines are well below the 4000 feet level." Last week we contented ourselves with quoting his general reply to these questions, but it is of such importance that we re-quote it:—

"It is very improbable that the ore of the deep mines in the region through which the Main Reef has been traced with certainty will show any general tendency to impoverishment; dykes and faults will probably give less trouble in the deep mines than in the outcrop mines; there is no ground for fearing unmanageable quantities of water, or even very serious pumping expenses; and the temperature will increase more slowly than in most regions. There are, in my opinion, no insuperable natural obstacles to mining on the Witwatersrand at a depth of 4000 feet, and no known reason why, under favourable industrial conditions, the expense should exceed the present cost at 500 feet." We hope that the report of this eminent expert will have the effect of restoring confidence in the future of the deep levels; or, at any rate, of inducing investors to leave their judgment in abeyance until a more progressive stage in their development has been reached. But there is little reason to be pessimistic over the future of the Consolidated Gold Fields, for, as Mr. HAMMOND points out, it has this in its favour, that the principal holdings of the company consist of properties "situated upon the Central, and unquestionably the most valuable, portion of the Rand." Even should these fall below expectation, there is a probability that they will, at any rate, yield a handsome income to the company.

JUSTICE TO WESTRALIA.

MR. S. F. VAN OSS is a young man with a laudable ambition. He has inexhaustible energy, and, by the aid of that quality, together with rare literary gifts, he is determined to reach his goal. Now, one of the surest and most expeditous routes to fame is to play upon the fears of humanity in general, and those of investors in particular. Mr. VAN OSS has proved himself a skilful player upon this not very difficult instrument, and the music he has drawn from it has fascinated a vast section of the community. So far he has been wonderfully successful, but rapid success is frequently an obstacle to further progress, and Mr. VAN OSS would be well advised not to allow ambition to over-ride discretion and judgment. His article on the Rand Mining Industry, which appeared in the *Nineteenth Century* some months ago, deservedly attracted a great deal of attention, for he there dealt with a subject which he had diligently studied, and with which he was deeply acquainted, and thereby was able to enunciate truths and reveal facts which were quite unknown to the average individual, a knowledge of which would be of the greatest benefit to him. Before the publication of that article very few had heard of Mr. VAN OSS. Afterwards everyone was asking who he was, and now he is recognised as a leading authority upon the financial questions of the day. Having done so much for the Rand, he is anxious to enlighten the public upon the true position and conditions of the mining industry in Western Australia, and he has once more, through the medium of the same influential review, endeavoured to create excitement and fear amongst the investing community. In a word, he has endeavoured to prove that the mining industry is a bubble destined to burst at an early date, and he warns the public not to be inveigled as victims of so inevitable a catastrophe. Mr. VAN OSS, in a word, has been audacious enough to condemn, whilst it is yet in its earliest infancy, and in face of the opinions of some of the most eminent experts of the day, a gold field which has yet had no fair trial of its gold-bearing capabilities. This is where we think Mr. VAN OSS is unjust, and why we are afraid that past success has to some extent impaired his discretion and judgment. We are strongly of opinion that this gold field is entitled to fair play, and that it is hazardous in the extreme to condemn it in this early stage of its development. And in this connection we would refer our readers to the article, which appears elsewhere, from the pen of Captain LONGRIDGE, who is in a position to obtain a deep knowledge of the subject, and who has, we think, ably disposed of Mr. OSS's assertions. But the latter's denunciation is not confined to the mining industry, but to the practices of the unscrupulous company promoter, incompetent directorship, share manipulation and inflation, and unskilful management, and his remarks on these phases have our entire sympathy. But we are afraid that these evils are too deeply rooted to be easily eradicated. They are the inevitable—we might almost say the natural—concomitants of the gold mining industry, and especially of the booms which, in various periods of its existence, accompany it. No gold field, however rich and promising, has ever attracted public attention, without at the same moment creating the obstacles which threaten its welfare, and against which it has seriously and assiduously had to contend. If these are grounds of condemnation, then it would be reasonable to condemn all gold fields and to throttle the gold mining industry at its birth. Mr. OSS cites the fact that already nearly £76,000,000 have been sunk in West Australian companies, whilst the returns from the mines have been infinitesimal in comparison. It is agreed that all this capital has been subscribed, but how much of it has been put aside for working capital, and how much of the latter has been spent upon the actual development of the mines? That is the vital question to be answered, for it is a fact that the greater portion of that huge sum has been distributed for other purposes than in the development of the industry for which it was directly subscribed. If investors would take this to heart more than they do, and would assiduously apply themselves to remove this evil, they would be astonished at the success which would reward them. They cry out bitterly against these evils, but do nothing to root them up, and gaze weakly and helplessly at the exploits of the thieves who are calmly emptying their well-filled pockets. In drawing attention to this—even though he be late in the day, and though others have long ago helped forward the work—Mr. OSS is performing a great public service, and it is to be hoped that his observations will be deeply weighed and acted upon. After all, however, the prominent characteristic of Mr. VAN OSS's article is its lack of newness, but it, nevertheless, performs a useful service by reminding us of what we already knew. It is for the most part historical, and he cites the well-known case of Londonderry as strong evidence of the tricky and patchy nature of the country. He also quotes from the report of Bergrath SCHMEISSER, the full text of which we were the only Journal to publish. But in our comments upon it we showed that this eminent expert did not condemn the colony, but was wise enough to suspend his judgment until fuller data were available upon which to form a reliable opinion. Mr. VAN OSS would have been discreet to follow the example of this gentleman, who not only had the advantage of a sound, scientific education, but had made an extensive examination of the gold field, a knowledge of which this clever writer cannot boast. He then emphasises the water question and the difficulty of transport. The former obstacle is undeniably most serious, and it is one which will for a very long time retard the progress of the industry. But energetic efforts are being made to combat and overcome it, and the probabilities are that in course of time success will attend them. The difficulty of transport is less serious, and as it is being gradually removed we do not think it should be taken into grave consideration.

Such is the gist of Mr. OSS's article, and though it contains many exaggerations, it is well worthy of serious study. Although it has of late become the fashion, we think it is too early to unreservedly condemn a gold field which on the surface has proved itself marvellously rich. True, it is burdened by many great obstacles, but these only exist in the nature of things, and they can in time be removed by human energy and skill. Far different, however, is it with the promoters of companies, incompetent directors, and unskilful management. The two former are greater and less remediable evils than the latter. Shareholders can insist upon the engagement of a trustworthy and experienced manager, and if they allow their property to be looked after by a tailor-turned-expert, then they should throw the blame upon themselves, and not upon the mine in particular or the industry in general. On a new gold field—as Herr SCHMEISSER pointed out—there are swarms of self-styled experts who had never before seen a mine. These individuals are always ready to furnish a favourable report upon a worthless property; and, unfortunately, they are not long in finding employment. These reports are published in prospectuses, and are powerful baits to attract the confiding investor. This is the great evil, but it is the evil which the victims themselves have it in their power to remove. But, notwithstanding these evils, is this particular gold field doomed to failure? It cannot be denied that there have been already many failures, and that many reefs have pinched out in depth. But it does not follow that this will be general. Nevertheless, in spite of its pessimism and one sidedness, the article upon which we have commented is an excellent article, and time would be profitably spent in studying it. It should make investors more cautious, and induce them to exercise more discretion and judgment. If that be its effect a great deal will have been gained; but, on the whole, as a contemporary observes, "he has written nothing which ought in the least to unnerve the ordinary intelligent holder of Westralian shares."

BRITISH SOUTH AFRICA COMPANY.

AT the extraordinary general and somewhat tumultuous meeting held yesterday, the shareholders decided unanimously to increase the capital of the company. This was to be expected. No one could have anticipated any other decision. The company is sadly in need of funds, and it is the duty and policy of the shareholders to come to its rescue. The change which has taken place in the fortunes of the Chartered Company during the past 10 or 12 months approaches the wonderful, and as late as February last, as the Chairman briefly pointed out, there was nothing in the condition of affairs in Rhodesia to lead the shareholders to anticipate the disasters which have overtaken the company, which forced the directors to make a debenture issue, and which now compels them to further increase the capital. The nature of these disasters is well known. It is impossible to over-rate the terrible effects of the rinderpest, but it is possible to admire the efforts of the directors to cope with it, and to provision the country in the absence of ox transport. These troubles which, unfortunately, are not yet at an end, have been colossal, and it will be a very long time before their effects are forgotten. At the present moment the situation is better and more hopeful than it has been for some months, and the end of the rebellion is happily at last in sight. But, unfortunately, before the company can profit from the improved condition of affairs, there is a great probability that a vast sum of money will have to be expended. It was undoubtedly an agreeable surprise to the shareholders to learn from the Chairman at yesterday's meeting that the present issue of capital is likely to meet whatever further exceptional outlay is necessary to carry the company on until the end of September of next year, and that if their anticipations are borne out the ever-increasing revenue of the country ought in 1897 to meet the ordinary expenditure. But the vital question is, what kind of a future has the company before it? and what sort of encouragement have the shareholders to stick to their holdings? If the shareholders are looking forward to dividends they will have to look forward a very long time. All they can hope for during the next few years is an appreciation in the price of the shares. As the outlook improves the shares will more and more certainly rise in value. The future of the Chartered Company depends, of course, upon the future of Rhodesia, and can it be said, with feelings of conviction, that that future is assured? Of course, we are speaking of its value as a gold field. Undoubtedly, the country is over-run with innumerable rich reefs, but that in itself does not imply their payableness and permanency. Many have asserted that it will prove one of the richest gold fields in the world. But this has over and over again been predicted of other gold fields, and in many instances the predictions have been far from verified. As yet it is too early to form any decided opinion. In the meantime, however, it is well to study the views of the eminent experts who are well acquainted with the country, and who have given the world the benefit of their opinions. First of all comes Mr. JOHN HAYS HAMMOND, and this expert's views are by this time well known. We have ourselves quoted them at considerable length in our columns, and our readers are perfectly familiar with them. On the whole, his opinion is a favourable one. Then there is Mr. CHAS. J. ALFORD, who knows nearly every inch of the country after a long residence there, and whose opinion likewise has been made public through the medium of our columns. He also takes a hopeful view of the future. Mr. SHAW is another authority holding somewhat similar opinions, and the conclusion at which we must arrive, therefore, is that the probabilities are in favour of Rhodesia turning out a valuable gold field. It is unnecessary to mention that the directors of the Chartered Company are very sanguine on the matter, their opinion being thus expressed in the circular which they have just issued to the shareholders:—"The confidence hitherto felt by the directors in the future of Rhodesia has in no way been lessened by the recent unfortunate events. These events have given a great impetus to railway enterprise, and it may now fairly be expected that the two railways—the one from the east coast and the other from the south through Bechuanaland—will meet between Salisbury and Buluwayo in a very few years. The Bechuanaland Railway, which is advancing rapidly from the south, has now reached a point 140 miles from Mafeking, will near Palapye by the end of April next, and reach Buluwayo towards the end of 1897. The Beira Railway Company on the east has, with its ally, the Beira Junction Railway Company, arranged for a through line from the Port of Beira on Pungwe Bay to Umtali (a few miles beyond the anticipated Portuguese frontier), to be opened next May, and negotiations are maturing for the immediate extension of the railway to Salisbury." It will be perceived that in this expression of opinion the directors emphasise the progress in railway extension. They rightly do so. It is a matter vitally affecting the future of the country. The question of transport, as Mr. ALFORD has so clearly pointed out, is an all-important question, and, therefore, it is very encouraging to know that so much progress has been made, and that such energy is being displayed. It is also a fact that there is general confidence in the future of Rhodesia. People look upon it as the coming gold field, and, therefore, in the near future we may, with much certainty, look forward to a boom in Rhodesia. If it comes, then the Chartered Company will reap a great benefit, and the shares will be in much demand. This demand will enhance the price, and the inference is that those who buy at present prices, or who stick to their present holdings, are likely to reap large profits. This, of course, is speculation, and though we do not look upon market manipulation with much favour, yet we cannot blink the fact that these are the profits to which the majority of the shareholders expectantly look forward. Therefore, looking at the future of the company from a one-sided view, the prospects are more than hopeful. From another point of view there is an element of uncertainty about them. The shareholders evidently, however, hold a different opinion. This was demonstrated very forcibly by their attitude at yesterday's meeting. They were highly indignant at the notion of the directors making underwriting arrangements, and they repudiated the idea with great clamour and scorn. Of course, the directors were highly pleased with this exhibition of feeling, for it was evidence to them of the shareholders' confidence in the future of the company. They were most anxious to subscribe the whole of the capital themselves, and the directors naturally do not wish to disappoint them. As a consequence, the resolution for sanctioning underwriting was unanimously defeated. As, however, Sir HORACE FARQUHAR earnestly pointed out, the directors were only doing their duty in making such arrangements beforehand, but now that the shareholders will not sanction them, the directors will regard them as bound by honour to subscribe the whole of the capital needed.

A YEAR'S MINING IN TASMANIA.

THE report of the Secretary for Mines of Tasmania, for the year ending June 30, 1896, has just recently reached us. The Mines Department deserves to be congratulated not only on the general character of the report, but above all upon the admirable promptitude with which it is issued. When the mining report for a large and important mineral region, such as Tasmania may fairly be called, can be issued within a month of the termination of the year which that report covers, the Department must be in excellent working order, and the methods of each individual worker, as well as the organisation of the whole, can leave but little to be desired, provided that a satisfactory standard of accuracy be maintained. We have no real means of judging whether this latter condition is complied with, except the somewhat negative one that we have found but few discrepancies, or evident inaccuracies, upon care-

fully study of it. It is a pity that the official year could not be made to coincide with the calendar year, because the present method renders the collation of statistics a matter of difficulty, and interferes with a proper comparison between this colony and others, whilst we cannot see the least good purpose served by this unusual method of reporting statistics. It is a terrible pity that our various colonies and the Mother Country cannot together elaborate some uniform method of returning mineral statistics, so as to render comparison of the various sources of the mineral wealth of Greater Britain a simpler matter than it is to-day.

This report is in every respect a satisfactory one; on every side we find a record of improved prospects together with steady actual progress both in mineral outputs and mining developments. In some of the leading fields of the colony, the names of which are well-known at home, such as Zeehan and Dundas, Mount Lyell, Mount Bischoff, Mount Reid and others, good honest work is apparently being done, and these districts are perhaps all the more flourishing because here is nothing sensational to report. Of the four branches of mining that are of chief importance to the colony—namely, gold, silver, tin, and coal—three exhibit a substantial improvement over 1894-95, tin alone showing a slight falling off.

The gold output is given as 63,861 ounces for the year 1895-96, valued at £239,479, as against a production of 58,301 ounces in the previous year. The following gold fields contributed to the above-named total:—

	Ozs.
Beaconsfield	33,686
Mathinna	15,663
Lefroy	10,160
Other localities	7,365

It will be noticed that the totals of these figures amount to more than the total given above, an error which we have no means of correcting, though there must be a mistake somewhere. In the Beaconsfield gold field the greatest portion of the output comes from one well-known mine, the Tasmania Mine, which has now 105 head of stamps in operation. This mine produced during the year 30,093 ounces of gold, and in the last quarter of the year no less than 11,118 ounces, whilst a still greater output is confidently anticipated. On the Mathinna gold field the principal mine is the Golden Gate, which produced during the year 75,800 ounces of gold, with an average yield of 17 dwts. 13 grains to the ton. It may be mentioned that nearly the whole of the gold got in Tasmania is from reef mining, only some 4000 ounces a year being produced from alluvial sources. It is to be regretted that we have no information respecting the number of tons of quartz crushed for the above-named gold production, so that we are really unable to judge, as accurately as we might wish, what the true status of Tasmanian gold mining is now or is likely to become.

The output of silver is nowhere mentioned in this report; all that we are told is that the colony produced 21,360 tons of silver ore in 1895-96, as against 19,665 tons in the preceding year, the ore being in both cases valued at the evidently rough estimate of £10 per ton. It is a great pity that the report does not declare the probable amounts of silver, lead, and other metals that this quantity of ore is expected to yield, because the information, as it stands, is all but valueless. Of course, the bulk of this silver ore comes from the Zeehan-Dundas field, upon which there are a number of mines in active operation. There is not much information obtainable about them; only in one case, that of the Zeehan-Montana Mine, are we informed that the ore averages 68 per cent. of lead and 109 ounces of silver to the ton, and that its output for 1895 was 1688½ tons. It nowhere appears whether the above assay may or may not be taken as the average of the district. It is stated that there is now no doubt of the Mount Lyell Company being able to work their splendid ore deposit at a profit, whilst general development and the construction of tramways, railways, and other works in that district are proceeding actively.

The output of tin for the year is given as 4198 tons, as against 4236 tons in the preceding year, being a small falling off to the extent of 38 tons. Owing, however, to the lower price of this metal, the value of the production, which is given as £260,270, shows a diminution to the extent of £15,070. The diminished output seems to be directly due to the low price of tin, at which there is but little encouragement for prospectors or miners to search for or open up new deposits. The output of alluvial tin seems to be falling off slightly, as is but natural. Of the lode mines, the most important is, of course, the famous Mount Bischoff, which maintains its steady output; this mine has been in existence for 23 years, has produced 48,500 tons of tin, and has paid its fortunate shareholders £1,419,000 in dividends.

The colony produces a small amount of coal, but the development of the coal fields seems to be hindered by their unfavourable position, their product having to be transported for a considerable distance to the markets. The output for the years 1895-96 was 36,274 tons, valued at £32,647, and shows an increase over the year previous to the amount of 5711 tons.

Deposits of other minerals, notably ores of copper and nickel, are also known to exist, and some work is being done upon them, especially as regards the first-named metal.

Upon the whole, a careful perusal of the report seems fully to bear out the conclusion expressed by the Secretary for Mines "that the work of the year affords evidence of distinct progress, and justifies the anticipation so freely expressed on all sides that there is a prosperous mining outlook for the future."

LAYING THE SILVERITE SPECTRE.

IT is not too much to say that a wave of relief has passed over the United Kingdom—and, indeed, over every country in Europe that has any considerable commercial relationship with the New World—at the results of the American polling, and the certainty, now firmly established, that Mr. MCKINLEY will be the new President chosen by the Electoral College. So far as England is concerned, the alternative has been between two evils. With Mr. MCKINLEY at the White House we are pretty certain to have a high tariff imposed upon British imports into the States, while in the event of Mr. BRYAN having been successful, a Silverite policy, amounting in the result to partial repudiation, would undoubtedly have been carried into effect. These are both evils, but as well in the interest of international honesty as in that of peace and good feeling among the nations, it is satisfactory that the question has had its present issue. The payment of British creditors according to an artificially created silver standard, which would have resulted upon a Bryanite victory, would have created a harmful precedent in international dealing, and would, doubtless, have disturbed the amity now happily existing between two great kindred nations. On any principle of sound economy a high protectionist tariff is incapable of defence, and it is difficult to understand so atavastic a recurrence to oft-exploded theories by a great nation in the vanguard of modern progress. Protection is, however, perfectly explicable as a platform creed, while borrowing at one coinage standard and repayment at another, is much more like transgression against the commandment not to steal than a soberly matured and deliberately accepted article of national policy. The charming and polished American lady who, on being asked whether there were no leisured classes dwelling under the *ægis* of the Star-spangled banner, replied "Oh, yes; there are; but we call them tramps," might now be given an effective tit-for-tat. Repudiation and meddling with the currency are not altogether unknown in English political circles, but they are generally referred to under the apt and suggestive title of "robbery." The figures from the polls, however, completely disarm this criticism, for it is now certain that no respectable portion of the States, taken as a whole, are disposed to undertake the interesting but questionable task of robbery at large. But if in its reflection upon the commercial probity of the American nation the Silverite policy would have been harmful there can be very little doubt that as an expedient of internal reform it would have been even more disastrous. Since the time when the Government of James II. in Ireland tried to make a currency out of brass kettles and tin pots it has been generally understood that all attempts to put an artificial value upon coinage are foredoomed to failure, and, once the excitement of the change was over, the Silverites would certainly have found their millennium to be "such stuff as dreams are made of." Whatever view may be taken as to the actual results of the election—and in politics there is no accounting for tastes—it is in any case well that so potent a factor for disturbing the balance of the stock and share markets in particular, and the whole commercial system of the country in general, as the uncertainty of the pending election has proved itself to be, should be resolved into a full and definite knowledge of the actual worst. The resultant of the many dubious forces which have been working together in the English markets during the past 12 months or so has not been altogether cheerful in character, and the laying of the Silverite spectre was sorely needed to restore confidence and vigour to the commercial spirit of the country.

THE CYANIDE PATENT CASE.

THE confidence which Mr. MCCULLOCH at a recent meeting of the African Gold Recovery Company expressed in the result of the Cyanide Patent case, then pending in the Transvaal Courts, appears to have been misplaced. News has been received in this country to the effect that judgment with costs has been given against the company. This is a decision the importance of which cannot easily be exaggerated. To the company itself the consequences must necessarily be grimly serious. Some assets, indeed, it has—such as 70,000 fully-paid shares in the Afrikander Gold Mining Company, and two blocks upon the Randfontein Estate—but by far its largest hopes have been centred in the African patents, and the outlook, now that the bottom has been knocked out of these latter, is gloomy indeed. The legal expenses which have been incurred in fighting the case must alone run to an enormous figure, and it will undoubtedly now be found necessary to effect a sharp curtailment of the London expenditure, which has hitherto been conducted upon a generous and enlightened scale. While the shareholders, in their misfortunes, will undoubtedly get a large measure of public sympathy, there is ground for satisfaction that South African gold mining will be relieved from the pressure of a monopoly which is certainly keenly felt in the case of an industry whose very existence depends upon the observance of rigid economy. No one will dispute the tremendous benefits which the cyanide process has conferred upon mining, but it should not be forgotten that it was probably originated rather with an idea to personal than to public benefit. If it be true that a confirmation of the patents would have cost South Africa £1,000,000 a year, it must be confessed that this would be rather a heavy sum to pay for an idea—an idea, moreover, which might afterwards have occurred to somebody else.

COAL-BORING AT DOVER.

OPERATIONS on the newly-discovered Kent coal field are well under weigh, and before long we may see the "garden of England," as it is fondly called by the aborigines, suffused with a delicate tint of carboniferous jet. The development of a robust and thriving coal field in a district hitherto associated with patriotic and literary ideas will naturally be viewed differently in different quarters. Th "Art Journal" and the magazine of the Selborne Society can hardly be expected, if, indeed, they concern themselves with the matter at all, to say a good word either for the coal deposits or for the people who are working them, but for industrialists of uncompromising colour there will be plenteous opportunities for expansion on the theme of material advancement and commercial progress. There is, in any case, every reason to suppose that the new coal field, if it realise the expectations that have been freely entertained regarding it, will produce enormous modifications upon the present economical condition of the charming county in which it is situated. Like neighbourhood with a river, proximity to a coal field is one of the most important factors in determining the trend and growth of a town's industries. The voluble Mr. ALFRED JINGLE would have been startled by any suggestion to include "coal" in his celebrated catalogue of commodities peculiar to Kent, but future critics of a more serious cast of mind will have to break the ice in this matter. The time when Dover coal will be put upon the market is, in fact, looming big in the future. First coal is expected to be reached in the early spring, and there is no reason why the good inhabitants of Maidstone and Canterbury should not next year light their Christmas fires with coal from their own county coal field, instead of with the time-honoured and more poetic wood log. It will be impossible to relinquish without a murmur that stretch of glorious scenery—rich with fat meadow land, bright with the golden harvest, and variegated with a thousand tints peculiar to prosperous agricultural land—which at certain seasons relieves the eye of the traveller returned home after a wearisome journey through the barren stretches of Northern France; but this is sentiment alone, and such regrets count for nothing in an age when all things are ruthlessly sacrificed upon the Altar of Commerce made perfect.

JOHNSON MINERS' SAFETY LAMP.

OUR readers will recollect that two or three months ago we gave an illustrated description of this safety lamp, which, we pointed out, contains many excellent improvements and possesses very great advantages. Since then the inventor has been busy perfecting his lamp, and in testing it in some of the most important collieries of the country. These tests have been highly successful, and Mr. JOHNSON has obtained some very flattering reports from colliery managers and others, which are prophetic of future success. The inventor has also obtained a highly valuable report upon it from Mr. HENRY LOUIS, M.A., A.R.S.M., F.I.C., F.G.S., &c., who arrives at the following general conclusions:—"The advantages of the Johnson Lamp are high illuminating power and steadiness, great saving in cost of oil, great sensitiveness and distinctness as a gas-detector, high degree of safety in an explosive atmosphere. Its main disadvantage is great sensitiveness to strong and oblique air currents of all kinds. Its slightly greater weight and slightly more complicated construction than some lamps are not of sufficient importance to be taken into account. It requires attention for about 20 minutes after being lit; if turned up too high, it will smoke and soot up in an hour, but once properly adjusted, it needs less attention than lamps burning vegetable oil. Some of the above objections can undoubtedly be overcome." From all appearances, therefore, the lamp bids fair to become highly popular.

BRITISH COLONIAL MINING CORPORATION.

THE report of the statutory meeting of the British Colonial Mining Corporation (Limited) will probably be esteemed pleasant reading by those who have holdings in the enterprise. The chief feature which stands reflected in the Chairman's speech is the extreme caution with which the venture has been originated, and the various interests acquired. From the elaborate statement made by the Chairman, supplemented by extended quotations from the reports of the engineers, whose names are frequently before us in connection with the West Australian mining industry, there seems reason to believe that the property which has been definitely acquired, and the numerous other mines over which the company has optional powers, are exceedingly promising in character. Mr. DEAKIN states, for instance, of the chief mine that it is "one of the best" mines it has ever been his lot to report upon, and this view is supported and confirmed by quite a host of independent experts, such as Mr. LESLIE NORMAN, who has traced "four lines of lode," Mr. J. HICKS, who "confidently" puts the probable yield at 2 ounces per ton; and Mr. T. DE COURCY BROWN, who "predicts great things" from the leases. If there is anything in expert testimony, these pronouncements go far to put a hall-mark upon the company's mine.

THE WHITE HORSE.

WHAT in a vulgar metaphor is generally described as "the plum" was not wanting in the Chairman's speech at yesterday's meeting of the White Horse Gold Mining Company (W.A.), Limited. The shareholders were informed of the discovery of a rich body of ore in driving north from the south shaft—a circumstance which, occurring so soon after the inception of the venture puts an exceedingly hopeful complexion upon the company's affairs. The proprietary was, moreover, informed that, although the developments are still in an early stage, a lode formation in places 100 feet wide has been struck, which, in any case, is an exceedingly good sign. The explorations have revealed other and equally satisfactory features, notwithstanding that the company is now at so early a point in its career, while the colonial directors, provided they work in harmony with the London board, are an assurance that the skill, which is partially the result of local knowledge, will be exercised in the company's management. It is impossible to give a definite pronouncement respecting so young a concern, but, at least, it may be said that its history has opened in a promising manner.

PUBLICATIONS RECEIVED.

"The Quiver." First part of enlarged series. (Cassell and Company, Limited.)

"Papers and Reports relating to Mineral and Mining of New Zealand."

THE MINING MARKET.

FRIDAY EVENING.

A quiet week.—Kaffirs slightly better at the close after plenty of fluctuation.—Westralians dull, and Miscellaneous neglected.

MOVEMENTS in the Mining Market during the past week have been on a less important scale than during the preceding month or so. For one thing the American elections have diverted the attention of operators to other departments of the Stock Exchange. Then we have had a holiday to take a day's dealings out of the record. The Paris Settlement passed off satisfactorily, the Account in mining shares being easily arranged with light Contangos, thus affording another proof of the recklessness of recent bear rumours. On the whole, the outlook is more cheerful than when we last wrote, and should the Settlement, which will be in progress next week, pass off satisfactorily, it is not unreasonable to look for a further rally.

Saturday witnessed a general all-round rally, dealers making a show of getting their books even in anticipation of the Stock Exchange holiday on Monday. There was not a large business doing, but all departments were equally steady. When the market reopened on Tuesday a decidedly cheerful tone was manifested, prices in the African Market creeping up hour by hour, and closing at the best. On Wednesday interest in the Mining Market was for the moment subordinated to the wild excitement in the American section on the success of McKinley, and the maintenance of the Gold Standard. In sympathy with the enormous rush up in Yankees, Kaffirs were strong at the opening of the market, and some substantial advances were marked. This, however, merely provided a platform for a renewal of sales, which were pressed throughout the day with surprising vigour, leaving the final quotations at the lowest level touched. Westralians improved during the morning, but later in the day were neglected, whilst there was a fair amount of business in New Zealand shares at rather better prices. The announcement on Thursday morning of the decision of the Pretoria Court in the African Gold Recovery Company case caused a rally in Kaffirs at the opening, but there was a set-back during the morning, to be followed, however, by a second spurt, which left prices generally better on the day. The Westralian market was dull and almost featureless, and there was not much doing in the Miscellaneous section. Prices have been decidedly harder to-day, though the business was not on a large scale. Chartered hardened up after the meeting, and there was a cessation of the sales of Goldfields, but East Rands were flat during the morning on an adverse article in one of the financial papers. There has been practically nothing doing in Westralians, but the last prices are rather easier.

South Africans.

A prominent factor in the speculative situation this week has been the conflicting statements as to the issue of the law suit in the Transvaal court to decide the validity of the patents of the African Gold Recovery Company. As far back as September 16 a misleading statement was published in the columns of a contemporary stating that the decision of the High Court had then been given in the company's favour, establishing its authority to levy tribute on all mining concerns in the gold fields where the cyanide process was in use. It was further alleged that the deferred royalties to be collected from the various Witwatersrand properties would amount to nearly 3 millions sterling, with a further large annual taxation. From time to time rumours have been revived, in which this serious threatened impost was employed by the bears for the frightening of holders of Rand properties. On Wednesday, when the Kaffir Market was at its weakest, one of the loudest cries amongst operators for the fall was to the effect that the decision of the Court had actually been given in the company's favour. Thursday morning, however, brought a direct refutation of this statement in shape of the decision of the Courts, upsetting the validity of the patents. African Gold Recovery shares, which had been run up to 2⅜ on Wednesday, were offered below £1 on the following morning. With them we are not particularly concerned, but it is satisfactory to find that one at least of the numerous canards, by the aid of which the wreckers have been pushing their campaign, has been thus finally disposed of. It is probably only a matter of time for a similar dissipation of the majority of recent bear points. The action of the shareholders at the Chartered Company meeting this morning in refusing to sanction the underwriting arrangements made by the directors has given rise to a good deal of argument amongst market operators. Everything, of course, depends on the manner in which the shareholders themselves respond to the offer of the new stock at £2. There is probably a considerable percentage of proprietors unable to take up their proportion of the new shares. On the other hand, there are others who will be willing to step into the breach, so as to make up for the shortcomings of their weaker brethren. Amongst those who attended the meeting, the idea was predominant that the would-be underwriters had already made large speculative sales in anticipation of their allotments. It is impossible to say how far this view is correct. The sudden break which carried the shares downwards from 3½ gives colour to the suggestion, but throughout the recent slump so much mystery has attached to the source of the heavy selling that it is quite possible to form an erroneous impression in this case. We are driven to the conviction that the fall has to a large extent been deliberately engineered by the very men from whom the public had a right to look for support. Strong attempts have been made to conceal the extent of the bear position. We have all along had our suspicions that very heavy commitments for the fall exist in generally unsuspected quarters. The last account passed off with no more verification of the chorus of pessimistic forebodings than one unimportant failure. Rumour after rumour has been proved untrue. The last hope of the bears seems to be that a movement will be made by the Boers towards a declaration of independence. When this suggestion is finally disposed of it would really seem that they will have exhausted every shot in their locker. In the meantime, prices present the appearance of having reached the bottom. On balance there is a very fair all round appreciation as the result of the week's business. Chartered are ⅛ up at 2 1/16, and Goldfields Deferred have gained ⅛ at 9⅛. The 15s. dividend will be declared on Thursday, but before this the making-up, which commences on Monday, will afford some information as to the position of the speculative account. The preference shares are 1s. 6d. better at 22s. 6d., and the Debentures unchanged at 108. Gold Trusts have risen ⅛ to 6⅛, and Goldfields Deep ⅛ to 6¼. A large business has been done in East Rands, which have fluctuated within rather wide limits. From 4¼ on Saturday, the shares were run up to 5⅛ on Wednesday morning. Twice since they have been back to 4¼, reacting in each case to 5⅛. They are finally ⅛ up on balance at 4 11/16. A good deal of feeling exists adverse to the proposal of the directors to issue 200,000 shares at par in extinction of the claims of the "H. F." Syndicate, and an article attacking this scheme was responsible for the flatness of the shares this morning. As the discussion of the matter will take place in Johannesburg only, it is hopeless to expect that the proposal will be vetoed, despite the strong objections of holders on this side. Anglo-French Explorations have rallied ⅜ to 3 7/16, and important improvements are shown in the subsidiary companies, Comets being ⅜ up at 1⅞, and Angelo ¾ better at 4⅛. Rand Mines rallied sharply in the middle of the week, going over 25. They are finally 1⅝ better at 23⅜. Consolidated Deep Levels have risen ¼ to 4 x.d., Nourse Deep ⅜ to 3¾, and Roodepoort Deep ¼ to 1⅝. Barney Barnato has been lying low for some time past, and the shares in his control show unimportant movements. Johannesburg Investments are unchanged at 2⅜, as are Barnato Consols at 1 11/16, Buffelsdoorn at 1 11/16, Glencairn at 2⅜, and Ginsberg at 1⅜. Gains of 1/16 to ⅛ are shown in Crœsus at 1 1/16, George Goch at 1¾, Langlaagte Royal at 1 7/16, May Consolidated at 2⅜, and New Primrose at 4⅜, whilst Kimberley Roodepoorts have lost ⅜ at 1⅞, and Rietfonteins ⅛ at 2⅜. The Robinson Group has been firm, but the only actual gains are ⅛ in Randfontein at 2½, and ¼ in Robinson Banks at 4¾. The decision in the Gold Recovery case has had a hardening effect upon the dividend-paying shares, more particularly those of the Eckstein Group. Citys have improved ¼ to 4, Henry Nourse ⅛ to 6⅝, Goldenhuis ¼ to 3¼, Heriot ¼ to 8⅜, Jubilee ⅜ to 8½, Modders ¼ to 4⅝, and Village Main Reef ⅜ to 5½. Crown Reefs have been exceptionally strong, gaining 1¼ at 10½, whilst Durbans have improved ⅜ to 6⅝, Kleinfontein ½ to 2¾, Knights ¼ to 5, Robinson ¼ to 8⅜, Van Ryn ⅛ to 4, and Wolhuter ⅛ to 5. There are not many changes calling for comment in the Land and Exploration list. Rhodesia Exploring has scored ¼ at 5, and Oceana ⅛ at 1 1/16. Klerksdorps have been quiet and close the turn harder at 7s. 6d. Lydenburg shares are a few pence better here and there, Lisbons being quoted at 5s., Lydenburg Estates at 1¼, and Spitzkops at ⅛. Jagers have risen ⅜ to 9⅜, whilst De Beers have moved up in a very determined manner on the satisfactory completion of the Paris Settlement. The price is all but 2 points higher at 29, after being even better.

West Australians.

Throughout the week there has been absolutely no activity in the Westralian Market. The bear attack upon the Associated Group has been prosecuted with the result that prices have been temporarily lower, but the last prices are not the worst. The supporters of this group appear to be lying low, trusting that their antagonists, if they have rope enough, will proceed to their own hanging. We should not be surprised to see a smart rally at any moment, though up to the present no sign has been made in that direction. Associated are 1/16 higher at 2 5/16. Lake View South have gained a like fraction at 1⅛, whilst W.A. Joint Stock Trust are ⅛ down at 2 premium, after falling to 1¾. Great Boulders have gained ⅛ at 6 7/16, Hannan's Brownhill ⅛ at 3⅜, Hannan's Proprietary 1/16 at 1 1/16, Hannan's Reward ⅛ to 1⅛, and Lake View Consols ⅛ to 7⅛. Otherwise prices are mainly nominal on last week's marks. The Menzies group is decidedly better. On a satisfactory crushing, Crusoe has risen ⅛ to ⅜. Menzies Mining and Reefs have both gained 1/16 at 1/16 and 1/16 respectively, Florence ⅛ to ⅜, and Lady Shenton ⅛ at 1 1/16. White Feathers are ⅛ up at 1 1/16, whilst Golden Crowns are 1/16 down at 1⅛. Gains of 1/16 appear in Hit or Miss at 1⅛, and Wealth of Nations at 1. W.A. Goldfields have lost ⅛ at 5⅞, and Globe and Finance and Exploring and Finance are both rather easier at 4 3/16, but Hampton Plains have risen ⅛ to 3 1/16. In view of the small business doing, it appears unnecessary to particularise further.

Miscellaneous.

Indian Gold Shares have kept very firm, though business has been on a small scale. Champion Reefs at 7⅛, Coromandel at 2 3/16, Ooregum at 2⅜, and the Preference at 3⅜, are all rather better. Nundydroogs are unchanged at 3 1/16, and Mysore are quoted at 7 1/16 x.d. Equally featureless is the New Zealand list. Waihi has lost ⅛ at 6½, as has Taitapu at 2⅜. Charters Towers varieties have been the medium of few transactions, but small advances appear in Brilliant and St. George at 1¼, Mills Day Dawn 1/16, and Day Dawn Block at 12s. On the first news of the McKinley victory there was a jump of 15s. in the price of copper, to which Rio Tintos responded with a rise to 25½. This gain has, however, been entirely lost by a pressure of sales to-day, and Tintos are finally ½ lower at 24½. Anacondas are ½ better at 6½, after being higher. Mount Lyells are the turn lower at 7⅜, Mount Morgans at 3 7/16, and Broken Hills at 2⅜, are without change. There is practically nothing further to chronicle in this department, transactions having been of the most meagre character.

STOCK EXCHANGE SETTLING DAYS.

Consols.

Tuesday, December 1.

MINING MAKING-UP DAYS:

Monday, November 9. | Monday, November 23.

MINING NAME DAYS:

Tuesday, November 10. | Tuesday, November 24.

ACCOUNT DAYS:

Thursday, November 12. | Thursday, November 26.

DIARY.

Monday, November 9.

Spitzkop, Winchester House, 2.
Burbank's Consols, Cannon Street Hotel, 2.30.

Tuesday, November 10.

Colenbrander's Matabeleland, Cannon Street Hotel, 12.
Oceana Consolidated, Winchester House, 12.
Santa Elena Nitrate, Winchester House, 12.
Royal Colonial Institute, Whitehall Rooms, 8.

Wednesday, November 11.

Consolidated Gold Fields of South Africa, Can. St. Ho., 12.
Wassau (Gold Coast), 147, Cannon Street, 12.
Williamson's Pioneer and Development, Winchester House, 2.
Wolhuter, Johannesburg.

Thursday, November 12.

Golden Plume Consolidated, Winchester House, 12.
La Guaira Harbour, Winchester House, 12.
Mines Corporation of New Zealand, Winchester House, 3.

Friday, November 13.

Witwatersrand Deep, Johannesburg.

We are officially informed that the entire supervision of the mining operations of the Waihi Silverton Extended Gold Mining Company (Limited) has been placed in the hands of Messrs. Touzeau and Janson's representative, Mr. A. P. Griffiths, of Auckland.

THE METAL MARKETS.

THE METAL MARKET, LONDON, NOVEMBER 6.

Copper.

THE present week has been marked by a substantial rise in G.M.B. values, notwithstanding the fact that the effect of the Republican victory in the States had been already discounted to a certain extent. The price of Lake has been put up to 11 to 11¼ cents, and a good demand, resulting in large sales of fine copper, has been experienced. On Monday the G.M.B. market opened with further business in Bryan options at £49 5s. and £49 10s., whilst £48 2s. 6d. to £48 5s. was paid for cash, with three months at 12s. 6d. contango. The publication of the statistics, showing an increase of over 1300 tons for the second half of October, had little appreciable effect, and on Tuesday cash improved to £48 7s. 6d., and three months to £48 18s. 9d. Wednesday's market was strong at the commencement, and cash sprang to £49, whilst three months touched £49 12s. 6d., the turnover for the day amounting to 2000 tons. On Thursday, after an intervening relapse to £48 13s. 9d. s.c., and £49 8s. 9d. three months, the highest values above named were again paid. To-day's market was easier, cash being done down to £48 11s. 3d., and three months at £49 3s. 9d. The latter position was done later at £49 6s. 3d., and we close to-night quiet at £48 11s. 3d. to £48 12s. 6d. s.c., and £49 3s. 9d. to £49 5s. three months.

Tin.

The October figures reveal a decrease for the month of 2,257 tons in the visible European supplies, but the market has been mainly under the influence of the movements in silver, opening firm at £59 5s. for cash Straits and £60 for 3 months, and remaining fairly steady at about this level during Tuesday and Wednesday, but subsequently giving way rapidly, spot touching £58 6s. 3d. and forward £59 3s. 9d. before the close on Thursday. To-day the market was firmer, with business in spot at up to £58 12s. 6d., and in forward at £59 to £59 8s. 9d. We close firm at £58 10s. to £58 12s. 6d. s.c., and £59 7s. 6d. to £59 10s. 3 months Straits. Billiton opened at fl 35⅜ s.c. and fl 36 3 months, and declined fl ⅛ on Thursday, closing this morning weak at fl 35⅜ and fl 35½ respectively, with spot Banca fl 35½.

Pig Iron.

Last week about 6000 tons were shipped from Scotland, an excess of 1500 tons over the figures of the corresponding week of 1895. The Glasgow market has been irregular, but prices have, on the whole, been fairly maintained. The opening was at 48s. 3½d. cash, and after a fall to 47s. 10½d., there was an advance to 48s. 6d., the two last figures named constituting the range for the week. To-day's market brought business at 47s. 10½d. to 48s. 1½d. The closing values are as follows:—s.c. at 48s. 1½d., 1 month at 48s. 4½d. Scotch, cash hematite 50s., Middlesbrough, 40s.

Lead.

The firmness continues, and whilst there is not much activity of demand, there is also not much lead offered for sale. The closing values are £11 5s. to £11 7s. 6d. soft foreign, and £11 8s. 9d. to £11 10s. 3d. English.

Spelter

also continues firm and very steady as to values, whilst there is a moderately good consumptive demand. We close quiet at £17 2s. 6d. to £17 5s. ordinaries, and £17 7s. 6d. to £17 10s. specials.

Antimony

is rather easier at £28 10s. to £29.

Quicksilver.

Firsts are still quoted at £6 12s. 6d., but seconds are easier at £6 11s.

The following are to-night's (November 6) prices of metals:—

	£	s.	d.		£	s.	d.
Copper							
Tough cake and ingot	51	5	0	.....	51	15	0
Best selected	51	15	0	.....	52	15	0
Electrolytic Copper	52	10	0	.....	54	10	0
Sheets and sheathing	—			.....	59	0	0
Flat bottoms	—			.....	62	0	0
Chili bars (spot, & 3 months respectively)	48	12	6	.....	49	5	0
Copper tubes, seamless	—			.....	0	0	8½
Alloys							
BRASS: Wire	—			.....	0	0	6
" Tubes (solid drawn)	—			.....	0	0	7
" Sheets	—			.....	0	0	6¾
PHOSPHOR BRONZE: Alloys II. (Cog Wheel Brand)	—			.....	81	0	0
" " III. or VII. (Cog Wheel Brand)	—			.....	83	0	0
" " XI. (Cog Wheel Brand)	—			.....	78	0	0
" " Vulcan brand Al (Cog Wheel Brand)	—			.....	72	0	0
DURO METAL (Cog Wheel Brand)	—			.....	73	0	0
BULL'S METAL (Cog Wheel Brand)	—			.....	65	0	0
Ferrobronze (Vivian's)							
Ingots (per lb.)	0	0	6¾	.....	—		
Ordinary sheets, plates, bolts and bars	0	0	7¾	.....	—		
Screw bolts and nuts	0	0	8¾	.....	—		
Pump rods, plain	0	0	7¾	.....	—		
" finished	0	0	10¾	.....	—		
DELTA METAL: No. 4 (per ton)	—			.....	—		
" Sheets and plates (per lb.)	—			.....	—		
" Bars, round, square, flat (per lb.)	—			.....	—		
" " hexagon (per lb.)	—			.....	78	0	0
Tin							
English, ingots, f.o.b.	61	0	0	.....	62	5	0
" bars	64	0	0	.....	64	5	0
" refined	65	0	0	.....	65	5	0
Straits, spot, and three months respectively	58	12	6	.....	59	10	0
Australian, spot, and three months respectively	60	12	6	.....	61	17	6
Banca " (in Holland)	59	10	0	.....	59	12	6
TIN PLATES: Charcoal, best quality per box	0	14	0	.....	0	18	6
" " ordinary	0	11	0	.....	0	13	6
" Coke, best quality	0	10	3	.....	0	10	9
" ordinary	—			.....	0	10	0

These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.

Iron							
Pig, G.M.B., f.o.b., Clyde, spot	—			.....	2	8	1½
" Scotch pig, No. 1 Gartsherrie	—			.....	2	11	6
" " Coltness	—			.....	2	12	6
" " Clyde	—			.....	2	10	0
" " Govan	—			.....	2	9	0
Bars, Welsh, f.o.b. Wales	5	10	0	.....	5	12	6
Plates "	—			.....	6	10	0
Bars, Staffordshire, at works	—			.....	5	17	6
Sheets " "	—			.....	6	5	0
Plates " "	—			.....	6	10	0
Hoops " "	—			.....	5	17	6
Ship plates, Middlesborough	—			.....	5	2	6
STEEL: English spring (west)	—			.....	12	10	0
" " east	—			.....	42	0	0
" Rails at works, according to section	4	5	0	.....	5	15	0
Lead							
Spanish or soft foreign	11	5	0	.....	11	7	6
English pig, common	11	8	9	.....	11	11	3
" L.B.	—			.....	11	17	6
" sheet and bar lead	—			.....	12	7	6
" pipe	—			.....	12	17	6
" red	—			.....	14	0	0
" white	—			.....	17	10	0
" patent shot	—			.....	14	15	0
Spelter							
Silesian ordinary brands	17	2	6	.....	17	5	0
" special brands	17	7	6	.....	17	10	0
English Swansea	17	17	6	.....	18	0	0
Sheet Zinc	—			.....	19	10	0
Antimony							
Antimony	28	10	0	.....	29	0	0
Quicksilver							
Flasks, 75 lbs. warrants	6	11	0	.....	6	12	6
Ore, c.i.f., U.K. ports	per unit.						
Manganese							
1st quality, 50 per cent. and upwards	0	0	11	.....	0	1	1⅜
2nd " 47 per cent. to 50 per cent.	0	0	10	.....	0	1	0
3rd " 40 " 47 per cent.	0	0	9	.....	0	0	11
Aluminium							
	Per lb.				Per lb.		
8-99% per cent.	0	1	4½	.....	0	1	6
Nickel							
per cent. guaranteed	0	1	2	.....	0	1	4

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

*** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share (£)	When last XD and Dividend.	Called up Per Share (£ s. d.)	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Abbott's Con. Reefs	5/16 7/16	7/16 9/16	1 0	—	1 0 0	—	De Kaap	Broad Street Avenue
Adler Consolidated	⅞ 1	⅞ 1	1 0	2/ Oct. 15, 96	1 0 0	250,000	Transvaal.	1, Moorgate place.
Afrikan Estates......	1¼ 1⅜	1 3/16 1 5/16	1 0	2/& rtsOc.16 95	1 0 0	438,600	De Kaap...	3, Copthall-buildings
„ Gold Recvry.	⅞ 1⅛	2⅛ 2⅜	1 0	rts Oct 30 '95	1 0 0	175,000	—	23, College Hill.
Afrikander ...... G	1⅝ 1¾	1⅝ 1⅜	1 0	rts May 24 '95	1 0 0	40,000	Transvaal.	83, College Hill
Alexandra Estate G	7/16 9/16	⅜ ½	1 0	—	1 0 0	225,000	Rand	16, George street
Angelo	4 4½	3¼ 3½	1 0	—	1 0 0	175,000	—	Winchester House
Anglo-French Exp.	3⅜ 3½	3 3⅛	5 0	3/- Sept. 30 '96	5 0 0	30,300	S. Africa	3, Princes street
„ Matabeleland	1⅞ 2	1 1⅛	1 0	—	1 0 0	39,750	Matabld.	Winchester House.
Appantoo ...... G	—	—	1 0	—	1 0 0	77,885	West Cost	Dashwood House.
Aurora ...... G	1 1¼	1 1¼	1 0	5% Mar.,'93	1 0 0	65,000	Rand	8, Old Jewry.‡
„ West United.	1 1¼	1 1¼	1 0	—	1 0 0	100,000	„	7, Lothbury
Balkis Eersteling G	1/ 1/6	1/ 1/6	10/	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
„ Land	4/3 4/9	4/ 4/6	10/	1/ Feb. 13, '96	0 0 0	520,000	„	
Bantjes Consol ...G	2⅛ 2⅜	2⅛ 2⅜	1 0	rts Sep 24 '95	1 0 0	83,0.0	„	15, Geo. st., Mn Ho.
Barnato Consol ...	1¾ 1⅞	1¾ 1⅞	1 0	—	1 0 0	1,000,000	—	7, Lothbury.
Barrett...... G	10/ 11/	10/ 11/	10/	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	1⅛ 1¼	1 1⅛	1 0	rts Jy 24 '95	1 0 0	400,000	Bechuana.	19, St.Swithin's-lane
„ Trading Assoc.	⅞ 1⅛	⅞ 1⅛	1 0	1/6 July 15,'96	0 10 0	91,307	„	72, Basinghall street
Big Golden Quarry	/3 /6	/3 /6	5/-	—	0 5 0	483,226	Kaap Rivr	Warnford Court,
Block "B" Lang.	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	535,000	Rand	8, Princes-st , E.C.‡
Bonanza	2 11/16 2 13/16	2⅝ 2¾	1 0	—	1 0 0	200,000	Turffont'n	120, Bishopsgate-st.
Brit. S. A. Char. ..	2⅜ 2½	2 5/16 2 9/16	1 0	rts Jy 28 '95	1 0 0	,999,760	S. Africa	15, St. Swithin's-lane
Buffelsdoorn...... G	1⅞ 2	1⅞ 2	1	16/- Nv. 28 '95	1 0 0	250,000	Potchefstr	7, Lothbury.
„ Central	⅝ ¾	⅝ ¾	1 0	—	1 0 0	—	—	8, Old Jewry
„ Consolidated	7/16 9/16	⅜ ⅝	1 0	—	1 0 0	225,000	—	Warnford Court
Cape Asbestos	¾ ⅞	¾ 1	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
„ Copper C	2⅜ 2⅛	2 5/16 2 7/16	2 0	2/ June 12, '96	2 0 0	300,000	Cape Col.	9, Queen-street-place,
„ 6% Pref. ...	2⅝ 2⅞	2⅝ 2⅞	2 0	2/ June 12, '96	2 0 0	45,000	„	„
Cassel Coal............	1⅞ 2 xd	1⅞ 2 xd	1 0	1/6 Oct. 29 '96	1 0 0	75,000	Johanbrg.	83, Cannon-street.
Cen. de Kaap	/9 1/3	/9 1/3	5/-	—	0 5 0	240,000	De Kaap	Palmerston Bldgs
„ Roodp't Deep	1⅜ 1⅝	1⅜ 1⅝	1 0	—	0 0	220,000	—	120, Bishopsgate st.
Champ d'Or...... G	1 1⅛	1⅛ 1¼	1 0	3/2 Feb. 27 96	1 0 0	116,016	Rand	8, Old Jewry, E.C.
Charterland G.F ...	⅜ ½	⅜ ½	1 0	—	1 0 0	150,000	—	19, S. Swithin's lane
Chimes West	⅞ 1⅛	¾ 1	1 0	—	1 0 0	150,000	—	Winchester Ho.
City and Sub.New G	3⅞ 4⅛ xd	3⅞ 3⅞ xd	4 0	7/- Oct. 20, '96	4 0 0	340,000	Rand	Gresham Ho.
Con. Bultfontein D	30/ 32/	30/ 32/	1 0	9d. July 15,'96	1 0 0	721,500	Griqualnd	62, Lombard-st
Con. Deep Levels G	3¾ 4¼ xd	3⅝ 4 xd	1 0	6/- Oct. 29, 96	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	9¾ 9⅞	8 13/16 8 15/16	1 0	10/ May 14 '96	1 0 0	,250,000	S. Africa	8, Old Jewry,
Do. 6% Pref.	1 1⅛	1⅛ 1¼	1 0	7 1-5d Jne26 96	1 0 0	1,242,999		„
Do. 5½% Deben...	107 109	108 110	5 0	5½% July1,'96	5 0 0	600,000	„	„
Crown Deep ......G	9 10	9 10	1 0	—	1 0 0	250,000	Rand	120, Bishopsgate-st.
„ Reef ......G	10⅜ 10⅝ xd	9¼ 9½ xd	1 0	12/ Oct. 29, '96	1 0 0	120,000	„	„
DeBeers Consol. D	28 15/16 29 1/16	27 27⅛	5 0	22/- July15 '96	5 0 0	789,791	Kimberl'y	62, Lombard-street.
Do. 5% 1st Deb....	105 107	106 108	1 0	5% July 1 '96	1 0 0	£3,500000	„	„
Do. 4½% Bul. Ob.	99 101	99 101	1 0	4½% Oct. 1'96	1 0 0	£720,000	„	„
Driefontein	2⅛ 2⅜	1⅞ 2⅛	1 0	—	1 0 0	175,000	—	Winchester Ho.
Durban Roodept. G	6⅝ 6⅞	6⅝ 6⅞	1 0	3/- Sept.16'96	1 0 0	£125,000	Rand	23, Leadenhall-bldgs
„ Deep.........	3⅜ 3¾	3⅜ 3¾	—	—	—	—	—	
Eastleigh ......G	9/16 11/16	⅝ ¾	1 0	rts May 14 '96	1 0 0	240,000	Klerksdrp	52, Leadenhall Street
East Orion..	1/16 3/16	1/16 3/16	1 0	—	1 0 0	275,000	Rand	8, Old Jewry.
„ Rand......G	4⅞ 5	4⅞ 4⅞	1 0	—	1 0 0	570,000	„	170, Winchester-ho.
Exploration	2⅛ 2⅜	2⅜ 2⅛	1 0	rts June 26 '96	1 0 0	140,000	S. Africa	30, S. Swithin's-ln.‡
Exploring L & M...	15/16 1 1/16	15/16 1 1/16	1 0	2/ Dec. 16, '95	1 0 0	216,215	„	19, „
Ferreira ......G	18 19	18 18½	1 0	25/ Aug. 28'96	1 0 0	45,000	Rand	120, Bishopsgt st, Wn
French Rand	2 1/16 2 3/16	1⅞ 2⅛	1 0	—	1 0 0	480,000	Rand.........	28, Austin Friars.
Geldenhuis Deep G	3¾ 4¼	4 4¼	1 0	—	1 0 0	265,000	Transvaal .	30, St. Swithin's-lane
„ Estate G	2⅝ 3⅜ xd	2⅞ 3⅛ xd	1 0	2/6 Oct. 29 '96	1 0 0	187,500	Rand	120, Bishopsgt st, Wn‡
„ Main Reef	11/16 13/16	11/16 13/16	1 0	2/ Feb. 13 96	1 0 0	150,000	„	Warnford Court, E.C
George Goch ...G	1 11/16 1 13/16	1 9/16 1 11/16	1 0	—	1 0 0	100,000	„	Johannesburg.
Ginsberg New ...G	1¾ 2	1 13/16 1 15/16	1 0	—	1 0 0	130,000	Drietfon .	Warnford Court, E.C‡
Glencairn ......G	2⅛ 2⅜	2⅛ 2⅜	1 0	rts Sep. 30 '96	1 0 0	200,000	Rand	2, Drapers-gardens.
Golden Dove	1 1⅛	1 1⅛	1 0	—	1 0 0	60,000	Natal	65, Chancery Lane.
Gld. Fie. Deep...G	6⅜ 6⅝	5⅝ 5⅞	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
„ of Lydenb'rg	1⅞ 2⅛	1⅞ 2	1 0	—	—	—	Lydenb'rg	7, Lothbury.
„ of Mashonld.	⅝ ¾	⅝ ¾	1 0	—	1 0 0	200,000	Mashonld.	19, St. Swithin's-ln.
„ Tierra d'l F'go	14/ 14/6	14/ 14/6	—	—	—	—	—	75, Leadenhall Street
Graskop ......G	3/- 3/6	3/- 3/6	5/-	2½% Mar.'92.	0 5 0	400,000	Lydenburg	2, Tokenhouse Bldgs
Gt. Estrn. Colliery	⅞ 1	⅞ 1	1 0	—	1 0 0	376,666	Grootolei	Gresham House.
Griqualand W....D	7⅞ 8⅛	7⅞ 8⅛	10 0	4/ July 15, '96	10 0 0	105,700	Transvaal .	62, Lombard-street
Heidelbg. Est. Ex.	¾ ⅞	9/16 ⅞	1 0	—	—	—	Heildelbg.	
Henderson's Trans	1 15/16 2 1/16	2 1/16 2 3/16	1 0	—	1 0 0	250,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...G	6⅝ 6⅞	6 6¼	1 0	—	1 0 0	100,000	De Kaap...	Warnford-court.
Hetty	7/16 9/16	5/16 7/16	1 0	—	1 0 0	110,000	Middlevei.	55, Bishopsgate st Wn
Joe's Reef ......G	1/16 3/16	1/16 3/16	1 0	—	1 0 0	57,404	„	21, Mincing Lane.
J'b'g Con. Invst (N)	2 11/16 2 13/16	2 11/16 2 13/16	1 0	2/ Sep. 30, '96	1 0 0	650,000	—	7, Lothbury.
„ Pioneer	7⅝ 8½	7⅝ 8½	1 0	8/ Oct. 15,'96	1 0 0	21,000	Rand.........	Johannesburg.
Jubilee ......G	8 8¼ xd	7⅝ 8 xd	1 0	4/ Oct. 29 '96	1 0 0	30,000	„	8, Old Jewry.‡
Jumpers ......G	5 5¼	4⅞ 5⅛	1 0	6/- Mar. 27 '96	1 0 0	100,000	„	120, Bishopsgt st, Wn‡
„ Deep......	5 6	4 5	1 0	—	1 0 0	300,000	„	30, S. Swithin's lane
Kimberley ......D	1/16 3/16 pm	1/16 3/16 pm	1 0	1/ June 26, '96	0 10 0	98,672	Kimberley	19, Finsbury circus
„ Rdpt....	1¾ 2	2⅛ 2⅜	1 0	—	1 0 0	125,000	„	2, Drapers-gardens
Kleinfont in Cen.	⅝ ¾	⅝ ¾	1 0	—	1 0 0	225,000	E. Rand ...	Winchester House
Klerksdorp	7/3 7/9	7/ 7/6	10/-	—	0 10 0	400,000	Klerksdorp	110, Cannon St.
Knight's Deep	1¼ 1⅜	1 1⅛	1 0	—	1 0 0	295,194	Rand......	8, Old Jewry
Koffyfontein......D	11/16 13/16	11/16 13/16	1 0	x.rts.Jun10'96	1 0 0	125,000	Jacobsdaal	6, Gt. St. Helen's.
Lancaster	2⅛ 2¼	2 1/16 2 3/16	1 0	—	1 0 0	226,500	Luip. Vlei	120, Bishopsgt st. Wn
Langlaagte Est. G	4⅛ 4⅜	4⅛ 4⅜	1 0	3/ July 30 '96	1 0 0	470,000	Rand.........	59, Holborn Viaduct
„ Royal	1⅜ 1⅝	1⅜ 1⅝	1 0	rts. Mar. 6 '96	1 0 0	100,000	„	2, Drapers-gardens.
„ Star...	¾ 1	¾ 1	1 0	—	1 0 0	170,000	„	
Lisbon-Berlyn .. G	4/9 5/3	4/9 5/3	2/6	—	0 2 6	283,233	Lydenburg	Suffolk House,
Lon. Paris Fin & M.	15/16 1 1/16	⅞ 1	1 0	—	1 0 0	500,000	—	53, Old Broad Street
London & S. A. Ex.	15¼ 15¾	15¼ 15¾	10/	4/-Sept.30 '96	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Luipaards Vlei.. ...	1 1/16 1 3/16	1⅛ 1⅜	1 0	6% Mar.'90	1 0 0	319,003	Rand...... ...	Warnford-court.‡
Lydenburg Estate.	13/16 15/16	1⅛ 1¼	1 0	—	1 0 0	190,000	Lydenburg	85, Gracech. Street
„ Ln & Exp	⅞ 1⅛	⅞ 1	1 0	—	1 0 0	200,000	„	120, Bishopsgte St.
„ M'g. Est.	4⅜ 4⅝	4⅜ 4⅝	1 0	—	1 0 0	300,000	„	‡120, Bishopsgate St.
Main Reef (New)G	1⅛ 1¼	1 1/16 1 3/16	1 0	—	1 0 0	111,500	Rand.........	15, George St., Mn H
Marievale Nigel ...	⅝ ⅞	⅝ ⅞	1 0	—	1 0 0	250,000	„	
Mashon. Agency...	1 9/16 1 11/16	1⅜ 1⅝	1 0	2/ Ap. 16 '96	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
„ Central...	13/16 15/16	13/16 15/16	1 0	—	1 0 0	110,000	„	
Matabelel'd G. R'f	3¼ 3⅝	3⅛ 3⅜	1 0	—	1 0 0	110,000	Matabelel'd	3, Copthall-buildings
May Con. (New) G	2 5/16 2 7/16	2¼ 2⅜	1 0	2/- Mar. 12 96	1 0 0	236,500	Rand...... ...	4, Lothbury.‡
Meyer & Charl....G	4⅞ 5⅛	4⅞ 5⅛	1 0	5/ Feb. 13 96	1 0 0	75,020	„	1, Crosby Square.‡
Minerva	9/16 11/16	9/16 11/16	1 0	—	1 0 0	150,000	„	Winchester House.
Mines Selection ...	⅞ 1	⅞ 1	1 0	—	1 0 0	100,000	—	33, Br'd St. Avenue.
Modderfontein.. G	4⅛ 4¾	4⅜ 4⅝	1 0	rts Aug. 25 '96	1 0 0	200,000	Rand.........	13, George Street
„ "B" Extensn.	1 1⅛	1 1/16 1¼	1 0	—	1 0 0	325,000	—	28, Austin Frias
Molyneux Conscll.	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	220,000	Modderftn	120, Bishopsgate st
Moodies ......G	⅝ 11/16	⅝ ¾	1 0	-/4 May '90	1 0 0	240,000	„	Gresham House.
Mozambique.........	1¼ 1⅜	1 1/16 1 3/16	1 0	—	1 0 0	400,000	S E. Africa	13, Austin Friars.
Namaqua C	1⅝ 1⅞	1⅝ 1⅞	2 0	3/-July 15 '96	2 0 0	94,331	Namaquald	34, Leadenhall-blds.
New African	2 2¼	2 2¼	1 0	5/ July 15 '96	1 0 0	190,000	—	83, Hatton Garden.
„ Bultfontein D	1 5/16 1 7/16	1⅜ 1⅝	1 0	1/- July 20 '96	1 0 0	150,000	Griqi'd. W.	6. Drapers Gardens
„ Chimes...... G	¾ 1	⅞ ⅞	1 0	1/- Mar. 27 '96	1 0 0	100,000	Rand.........	8, Old Jewry, E.C
„ Comet	1¾ 2	1⅜ 1⅝	1 0	—	1 0 0	175,000	Heidelburg	Winchester-house.
„ Crœsus...... G	1 1 1/16	15/16 1	1 0	rts Apr 17 '95	1 0 0	255,000	Langlaagte	120, Bishopsgt.st.Wn
„ Beriot ......G	8¼ 8⅛	8⅛ 8⅜ xd	1 0	4/ Oct. 28, '96	1 0 0	88,750	Rand.........	96, Gresham Ho EC
„ Jagersf. ...D	9 9/16 9 11/16	8 13/16 9 1/16	5 0	6/ Sep. 30, '96	5 0 0	200,000	Transvaal .	5, Copthall-buildings
„ Kleinfontein G	2⅝ 2⅞	2⅝ 2⅞	1 0	rts. Sep. 30 '96	1 0 0	82,500	Rand.........	Winchester House
„ Midas	1⅛ 1⅜	1¼ 1⅛	1 0	rts Jan. 18,'96	1 0 0	150,000	Mid'le Vlei	120, Bishopsgt-st. W
„ Primrose ...G	4⅝ 4¾	4⅜ 4⅝	1 0	rts Sep. 30,'96	1 0 0	272,360	Rand.........	2, Draper's-gardens.
„ Rietfontein G	2¼ 2⅜	2⅛ 2⅜	1 0	—	1 0 0	160,000	„	Warnford-ct., E.C.
„ S.Augustine D	2/6 3/	2/ 3/	1 0	—	0 19 6	299,137	Griqu'ld W	30-1, St. Swithin's-l.
„ Spes Bona...G	1 1¼	1 1¼	1 0	—	1 0 0	112,701	Rand.........	24, N. John-st., E.C
„ Steyn Estate	1 5/16 1 9/16	1 5/16 1 9/16	1 0	—	1 0 0	125,000	Heidelber	19 Bury Street p'.

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Nov. 6, 1896	Closing Price, Oct. 30, 1896.	Am't. of Share (£)	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Nigel .... G	2¼ 2⅛	2¼ 2⅛	1 0	rts Aug 10 '95	1 0 0	160,000	Rand.........	96, Gresham Ho. E.C.
„ Deep ......G	1 1⅛	1 1⅛	1 0	—	1 0 0	195,000	Heidelberg	8 Old Jewry
North Charterland	5/- 7/- nom	5/ 7/ nom	1 0	—	1 0 0	800,000	—	Winchester House
„ Randfontein	1⅛ 1⅞	1⅛ 2	1 0	—	1 0 0	235,000	—	8, Princes street
Nourse Deep.........	3¼ 3¾	2⅛ 3⅛	1 0	—	1 0 0	375,000	Rand.........	120, Bishopgt.st, Wn
Oceana Consoldatd	1⅛ 1¼	1 1⅛	1 0	—	1 0 0	—	Wtrbg Lyn	13, Austin Friars.
„ Develpmnt	⅜ ½	⅜ ⅝	1 0	—	1 0 0	50,000	Heidelbrg.	
„ Minerals ...	⅜ ½	⅜ ½	1 0	—	1 0 0	500,000	„	„
Orange F.S.E. ...D	2¾ 3¼	3 3⅛	1 0	2/6 Apr. 29, 96	1 0 0	284,000	OrangeF.S.	10, Moorgate-street
Orion (New)......G	13/16 15/16	⅞ ⅞	1 0	10% Aug. 95	1 0 0	30,000	Rand.........	8, Old Jewry.
Paarl Central ... G	1 1⅛	1 1⅛	1 0	—	1 0 0	138,750	Transvaal .	120, Bishopsgt st, W.
Pardy's Mozambq.	1 1¼	1 1¼	10/	rts Mar 96	0 10 0	60,000	S.E. Africa	Broad St. Avenue.
Piggs Peak ......G	½ ⅞	9/16 11/16	1 0	—	0 19 0	200,000	Swazielnd.	4, Sun Court,
Porges Randfontn.	13/16 1 1/16	11/16 1 1/16	1 0	2/ Feb. 13 '96	1 0 0	437,500	Rand.........	1, Bank Buildings
Potchefstroom... G	5/16 7/16	⅜ ½	1 0	—	1 0 0	389,750	Potchefst...	19, Bury-st., E.C.
Princess Estate G	2⅝ 2⅞	2 2¼	1 0	—	1 0 0	125,000	Rand.........	33, Cornhill, E.C.
Rand Central Ore	1⅛ 1¼	1 1⅛	1 0	25 p c Aug. 95	1 0 0	115,000	—	8, Princes-street, E.C
Randfontein ......G	2 5/16 2 7/16	2⅛ 2 5/16	1 0	xr June 12, 96	1 0 0	2,000,000	Rand.........	1, Bank Buildings
Rand Mines ...... G	23⅛ 23⅜	23⅛ 22⅜	1 0	—	1 0 0	332,708	„	120, Bishopsgate st.
Rand-Rhodesia Ex	⅜ ⅞	⅜ ⅞	1 0	10 p.c. Oct. '95	1 0 0	25,000	R&Rhodesa	133, „
Rhodesia Ex & Dv.	4¾ 5¼	4¾ 5¼	0	—	1 0 0	50,000	Mt &Mash'l	15 & 16, Geo. St. E.C
Robinson(SA)Bank	4⅛ 5	4⅛ 5	4 0	4/ Apl. 15, 96	4 0 0	750,000	—	8, Prince's-street
„ Deep......	6⅞ 7⅛	6 7	1 0	—	1 0 0	500,000	M'nR'tR'nd	120, Bishopsgate st.
„ Diamond	½ ⅞	⅜ ⅞	1 0	—	1 0 0	350,000	Kaal Valley	8, Prince's street
„ Gold......	8¼ 8⅜	8 8¼	5 0	5/ July 20 '96	5 0 0	550,000	M. Rf.'rand	28, Austin Friars
„ Randftn.	15/16 1 1/16	1 1⅛	1 0	—	1 0 0	517,000	Rand.........	8 Prince's-street.
Roodepoort Deep	1⅛ 1⅜	1⅜ 1⅝	1 0	—	1 0 0	170,000	„	8, Old Jewry, E.C.
Roodepoort Un. G	3⅞ 4⅛	3⅞ 4⅛	1 0	2/ July 30 '96	1 0 0	130,000	„	Warnford-court.‡
Rose Deep......	3⅛ 3⅜	3⅛ 3⅜	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S.Swithin's lane
Rothery Block......	⅜ ½	⅜ ½	1 0	—	—	—	—	55, Bishopsgate st.
Sacke Estates	1 1¼	1⅛ 1⅜	1 0	2/ June 12 '96	1 0 0	225,000	—	19, Bury Street.
St. Helen's Devel.	2⅛ 2⅜ nom	2⅛ 2⅜ nom	1 0	—	1 0 0	47,950	S. Africa ...	13, S. Helen's Place
Salisbury New ...	3¼ 3½	3¼ 3½	1 0	—	1 0 0	98,000	Rand.........	96, Gresham Ho. EC
Sheba ....G	1¾ 1⅞	1¾ 1 15/16	1 0	1/- Sept.30'96	1 0 0	850,000	Lydenburg	18, S. Helen's place
Simmer & Jack...G	4¼ 4⅜	4¼ 4⅜	5 0	2/ Aug 14 95	5 0 0	940,000	Rand......	8, Old Jewry.
S.A GoldTrust New	6 6¼	5⅞ 6⅛	1 0	7/6 Jun 26 '96	1 0 0	250,000	S. Africa...	
Spitzkop (New) G	11/16 ¾	⅝ ¾	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt st, Wn
Stanhope ....G	⅝ ⅞	⅝ ⅞	1 0	1/- Sept 30 '96	1 0 0	34,000	Rand... ...	96, Gresham Ho. EC
Sutherland R. ...G	2/ 3/	2/9 3/3	1 0	—	1 0 0	220,000	Zoutpanbg	Dashwood Ho.
Tati Concessions ...	1¼ 1⅜	1 3/16 1 5/16	1 0	rts Jy. 22 '95	1 0 0	392,000	—	Gresham House
Trans. Coal Trust...	1⅜ 1½	1⅜ 1½	1 0	1/-Apr. 29, 96	1 0 0	439,965	Rand......	Broad-st. House, E.C
„ Consolidatd	1¼ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	485,131	Transvaal	120, Bishopsgate st Wn
„ Est. & Dev.	⅝ ¾	11/16 13/16	1 0	—	1 0 0	428,600	„	10, New Broad-st. E.C
„ Gold Fields	3 3¼	3 3¼	1 0	8/- Apr. 15 '96	1 0 0	135,000	S. A. R......	120, Bishopsgate st. Wn
„ Land.........	5/16 7/16	5/16 7/16	1 0	—	1 0 0	79,915	Transvaal .	35, Abchurch Lane.
Treasury............G	1¾ 2	1⅞ 2	4 0	12½% Sep.'94	4 0 0	135,000	Rand.........	Warnford Court.
United Exploratn.	¾ 1	⅝ ⅞	1 0	—	1 0 0	250,000	—	120, Bishopsgate st.
„ Ivy Reef......G	⅜ ⅞	½ ¾	1 0	/6 June 26 '96	1 0 0	45,000	Transvaal .	110, Cannon-street.
„ Langlaagte(N)G	½ ¾	⅝ ¾	1 0	—	1 0 0	146,000	Rand.........	85, Gresham Ho. E.C
„ Mines Bultf. D	1 1⅛ nom	1 1⅛ nom	1 0	1/ Aug. 28, '96	1 0 0	125,000	Kimberley	120, Bishopsgate st.
Van Ryn ...... G	3⅞ 4⅛	3¾ 4	1 0	4/- Jan. 16 '96	1 0 0	160,000	Rand.........	18, St. Swithin's lane
„ North ...	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	116,091	—	„
„ West......	1¾ 2	1¾ 2	1 0	—	1 0 0	120,000	Rand	
Vesta	½ ¾	½ ¾	1 0	—	1 0 0	130,000	Rand	Winchester House
Village Main Reef	5⅛ 5⅜	4⅞ 5	1 0	rts June 26 '96	1 0 0	177,000	„	8, Old Jewry.
Vogelstruis Estate	3⅞ 4⅛	3⅞ 4⅛	1 0	—	1 0 0	200,000	„	Winchester House.
„ Cons. Deep ...	1⅜ 1⅞	1¾ 2	1 0	—	1 0 0	327,750	„	16, Geo. St. Mn. Ho.
Wassau ....G	1 7/16 1 9/16	1⅛ 1¼	1 0	—	1 0 0	190,000	Gold Coast	147, Cannon-street
Wemmer ....G	8 8¼	8 8¼	1 0	10/ Apr. 29 96	1 0 0	55,000	Rand.........	19, Bury-street,‡
Western Nigel......	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	207,000	Main Reef	Suffolk House,
West Rand.........G	1 5/16 1 7/16	1⅜ 1⅛	1 0	—	1 0 0	240,000	Rand...... .	13, Geo. St., Man. Ho.
Willoughby's Con.	1 3/16 1 5/16	1¼ 1⅜	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	4⅞ 5⅛	4⅞ 4⅞	1 0	—	1 0 0	250,000	Rand.........	19, Bury-st., E.C.
Wolhuter ....G	4⅞ 5⅛	4⅜ 4⅝	1 0	rts Apr 26 '94	1 0 0	130,000	„	Warnford-court.‡
Worcester ....G	4 4¼	3⅞ 4⅛	1 0	3/-Aug. 28 '96	1 0 0	90,727	Rand.........	8, Old Jewry.‡
Zambesia Explora.	2 2¼	2 2¼	1 0	—	1 0 0	65,000	Transvaal .	30-31, Clement's lane

BRITISH MINES.

Name.	Closing Price, Nov. 6, 1896	Closing Price, Oct. 30, 1896	Am't. of Share (£)	When last XD and Dividend.	Called up Per Share (£ s. d.)	Amount of Stock or No. of Shares Issued (£)	Situation of Mine.	Head Office.
Basset	14/ 15/	17/ 18/	1 0	—	1 0 0	65,000	Cornwall	Redruth.
Blue Hills .....CT	1/ 2/	3/ 4/	*	2/- May,'81	5 19 6	5,353	„	Camborne.
Carn Brea &Tinct T	1/ 2/	1/ 2/	1 0	2/6 Dec.,'93	22 8 6	—	„	Carn Brea.
Devon Gawton CA	15/ 20/	10/ 25/	1 0	—	0 15 0	25,000	Tavistock	8, Finsbury circus
„ Gt Cons. CA	¾ 1	¾ 1	5 0	1/6 May '95	2 0 0	10,240	Devon ...	„
Dolcoath ....T	16/6 17/	16/ 18/	1 0	—	1 0 0	188,000	Cornwall	Camborne.
„	5/ 5/6	4/ 6/	1 0	—	0 7 6	25,000	„	„
Drakewalls CTM	/6 1/	/6 1/	5/	—	0 2 0	61,856	„	Dashwood House.
East Pool ......AT	18/ 19/	19/ 20/	*	1/6 Sept.,'94	0 9 9	6,400	Cornwall	Illogan.
Great Laxey......L	1 1⅛	1¼ 1⅜	4 0	5/- Apr.,'92	4 0 0	15,000	I. of Man	Gresham House.
Halkyn	10 11	10 11	1 0	2/6 June 26'96	1 0 0	10,000	Flint	Chester.
Isle of Man L	6 6¼	5¾ 6¼	5 0	3/- June 12 '96	5 0 0	14,000	I. of Man	„
Killifreth ....T	5/3 6/3	⅜ ⅝	*	11/6 Nov.,'94	8 15 6	6,000	Cornwall	Truro.
Leadhills L	1 1⅛	1 1⅛	6 0	1/6 Apr. 29 '95	6 0 0	80,000	Lanarksh.	30, Finsbury-circus
Levant ....CT	1¾ 2	2 2⅛	*	4/- Nov.,'94	11 9 6	2,500	Cornwall	Penzance.
Polberro ....T	4/ 5/	4/ 5/	*	—	2 1 5	18,000	S.Agnes,Cl.	37, Walbrook.
So. Condurrow TC	1/6 2/6	1/ 2/	*	3/6 Apr.'93	7 17 6	6,123	Cornwall	10, Great St. Helen's
„ Crofty TA	1/ 1/5	⅛ ¼	*	—	17 10 6	5,769	„	Pool, Cornwall.
Weardale L	5/9	2/	4 0	1/3 Oct.'90	1 10 0	60,000	Durham...	3, Lombard-court.
West Kitty ......T	2 2¼	2 2¼	*	2/- Dec,'94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ...TA	1/6 2/6	1/ 2/6	*	2/6 Aug.'88	23 15 2	6,000	„	Redruth
„ Friendly..T	1/ 1/6	1/ 1/6	*	—	0 12 9	10,000	„	2, Copthall Bldgs, E.C
„ Grenville T	3⅛ 4⅛	3⅛ 4⅛	*	3/- Nov 28 '99	18 2 0	6,000	„	7, Union-court, E.C.
„ Kitty......T	5/6 6/	⅛ ¼	*	3/- Mar.'85	4 5 6	8,590	„	Truro.
„ Metal&F.T	3/ 3/6	3/6 4/	*	—	0 3 0	63,000	„	14 Broad-street Av.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Nov. 6, 1896	Closing Price, Oct. 30, 1896	Am't. of Share (£)	When last XD and Dividend.	Called up Per Share (£ s. d.)	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Balaghat Mysore G	2/6 3/	2/ 2/6	1 0	—	1 0 0	160,000	India	6-7, Queen-street pl.
Burma Ruby.......R	⅜ ⅝	11/16 13/16	1 0	—	0 18 0	298,370	Burmah...	Suffolk House E.C.
ChampionReef...G	7 7/16 7 9/16	7⅜ 7⅝	1 0	4/6 Aug. 13 '96	1 0 0	211,645	India	6-7, Queen-street-pl.
Colar Central ...G	1/6	—	1 0	—	1 0 0	200,000	„	Dashwood Ho., E.C.
Coromandel...... G	2⅛ 2¼	2 1/16 2 3/16	1 0		1 0 0	120,000	„	6-7, Queen-st.-place
GoldFldsMysore G	20/ 21/	20/ 21/	1 0	1/- July '92	1 0 0	220,000		6-7, Queen-street pl.
Hadur Mysore......	6/3 6/9	6/ 6/6	5/	—	0 5 0	400,000		Copthall House, E.C
Kempinkote GdFd	1/3 1/9	1/3 1/9	5/	—	0 4 0	575,210	India	6-7, Queen-st.-place
Mysore .... G	7 7/16 7 9/16 xd	7⅜ 7⅝ xd	1 0	7/ Oct. 29 '96	1 0 0	248,354	„	6-7, Queen-street pl
Barnhalli ...G	-/6 1/-	—	1 0	—	0 18 6	100,007	„	13, Copthall Avenue
„ Reefs ...G	6/6 7/6	6/6 7/6	1 0	—	0 19 6	160,000	„	6-7, Queen-street-pl.
„ West(N)G	11/16 13/16	11/16 13/16	1 0	rts. Jan. 16 '96	0 19 6	127,402	„	2, Gt. Winchester St
„ Wynaad G	9/16 11/16	9/16 11/16	1 0	rts. Jan. 16 '96	0 19 6	125,000	„	
Nine Reefs ....G	5/6 6/	4/6 5/6	10/	—	0 3 6	250,000	„	6-7, Queen-street-pl.
Nundydroog......G	3⅜ 3⅝	3⅜ 3⅝	1 0	2/- June 26 '96	1 0 0	200,000	„	
Ooregum (Dr.O.)G	2 13/16 2 15/16	2⅝ 2⅞	1 0	2/ July 15 '96	1 0 0	145,000	„	
„ (10% Pref.).	3⅛ 3⅜	3 3¼	1 0	4/ July 15 '96	1 0 0	107,011	„	
„ (10% Pref.).	2⅛ 2⅜	2⅛ 2⅜	1 0	4/ July 15 '96	0 5 0	12,989	„	
Panang Kabang T	1/16 3/16	1/16 3/16	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's sq. E.C
„ Corp.......	8/ 10/	8/ 10/	—	—	—	—	—	
Yeriakonda ....G	1/ 1/6	1/ 1/6	4/	—	0 5 0	187,491	Mysore ...	6-7 Queen-street pl.

"THE MINING JOURNAL" SHARE LIST—(Continued)

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Aladdin's Lamp G	2⅝ 2⅞	2⅝ 2⅞	1 0	2/ Sept. 30 '96	1 0 0	100,000	L'knN S.W	4-6, Throg. Avenue.
Anglo-Cont. Corp.	¾ 1	¾ 1	1 0	100% '95	1 0 0	125,000	—	Worcester House.
„ French Exp	¼ ½ pm	¼ ½ pm	1 0	3/ Sept. 30, '96	0 10 0	40,000	W. Austral	3, Princes Street.
„ Ger. Explor.	⅜ ⅜ pm	⅜ ⅛ pm	1 0	5/ Oct. 20 '95	0 10 0	40,000	„	„
Arcola ...G	⅜ ⅝	⅝ ¾	1 0	—	1 0 0	100,000	N. Zealand	30, S. Swithin's Lane.
Arrow Brownhill G	5/16 7/16	5/16 7/16	1 0	—	1 0 0	90,007	Cool., W.A.	4, Gt. Winchester St.
Assoc. Gold Mines	2⅜ 2⅝	2⅛ 2⅜	1 0	bo June 28 '96	1 0 0	375,000	„	20, Bucklersbury
Australasian ...G	4/6 5/6	4/6 5/6	1 0	-/6 Mar., '92	1 0 0	10,000	Gymp.Q'ld	6, Queen-st. place
Australian ...C	—	—	20 0	1/-July 30 '96	7 7 6	218,315	S. Austral.	42, New Broad-street
Aus. Bro. Hill Con.	1/ 1/6	1/ 1/6	1 0	1/- June, '91	0 19 3	574,799	BarR.NSW	Winchester House.
Baker's Creek ...G	⅝ ⅝	⅝ ⅞	1 0	1/- May '95	0 17 6	500,000	H'gveNSW	Hillgrove, N.S.Wale.
Bamboo Queen & R	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	—	Pilb., W.A	38, Coleman Street.
Bayley's Rew..rd G	2/6 3/6	2/6 3/6	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow ...G	4/6 5/6	3/ 4/	1 0	—	1 0 0	150,000	„	151, Cannon Street.
Black Flag Consld.	9/16 11/16	9/16 11/16	1 0	—	1 0 0	140,000	Coolgardie	4, Bishopsgte St Wn
„ Propty.	⅜ ⅜	5/16 5/16	1 0	—	1 0 0	600,000	Coolgardie	1, Metal Exch. Bldgs
Blagroves Freehld	2/3 2/9	2/ 2/6	2/6	—	0 2 6	500,000	Corom. N Z	Dashwood House.
Blue Spur and G.G	10/ 11/ nom	10/- 11/-	1 0	3% Aug. 13, '96	1 0 0	82,298	Otago, N.Z.	6-8, Great St. Helen's
Bonnie Dundee G	7/ 8/	7/ 8/	1 0	—	0 19 0	120,000	C. T.Q'lanc	16, S. Helen's Place
Brilliant ...G	13/16 15/16 xd	13/16 15/16 xd	2 0	/4 Oct. 25, '96	2 0 0	250,000	„	Charters Towers.
„ Block...G	⅞ 1	⅞ 1	1 0	-/6 Dec. 16 '95	1 0 0	70,000	„	16, S. Helen's Place
„ St. Geo. G	1⅜ 1⅞	1⅜ 1⅞	10/	/9 Oct. 13, '96	0 10 0	72,000	„	Charters Towers.
Br't. Brok. Hill S	11/16 13/16	9/16 11/16	1 0	—	1 0 0	240,000	N.S. Wales	Dashwood Ho., E.C.
Broad Arrow ...	1/ 2/	1/ 2/	5/	—	0 5 0	400,000	W.Feather	57, Moorgate Street.
Broken Hill Prop. S	2 5/16 2 7/16 xd	2 5/16 2 7/16 xd	8/	1/- Oct. 29, '96	0 8 0	960,000	N. S. Wales	3, Gt. Winchester st.
Brownhill Propty.	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	61,500	Hannan's	4, Gt. Winchester st
B'rbank's Birch'd'v	1⅜ 1⅞	1 11/16 1 13/16	1 0	—	1 0 0	150,000	Coolgardie	Copthall House.
Cassidy Hill ...G	⅜ ⅜	5/16 7/16	1 0	—	1 0 0	115,000	„	9-10, King Street, E.
Central Boulder G	⅜ ⅜	⅜ ½	1 0	—	1 0 0	95,522	K'lg'li, WA	Wor'st'r Ho., Walbr'k
„ Exp. & Invest.	5/16 3/16 dis	3/16 5/16 dis	1 0	4'3d Mar 12 '96	1 0 0	200,000	W. Austral	1, Met. Exchg. Bldgs
„ „ of W.A.	1/16 5/16	7/16 9/16	1 0	1/7¾ Mar 27 96	1 0 0	122,000	„	2, „
Charters Tow. ...G	1/ 1/3	1/ 1/6	10/	—	0 9 6	200,000	Queensland	110, Cannon Street
Colonial Finance...	2⅛ 2⅜ pm	2⅜ 2⅝ pm	1 0	10/ Mar. 27 '96	0 10 0	21,140	W. Austral	139 „
„ Gold Fields	par ⅛ pm	par ⅛ pm	1 0	—	0 12 6	75,250	„	70, Cornhill.
Con. G. M. of W.A.	⅛ ⅜	5/16 7/16	1 0	—	1 0 0	246,779	Pilbarra ...	30, Moorgate Street.
„ Murchison ...	5/16 7/16	5/16 7/16	1 0	—	1 0 0	225,533	Murc., W A	Broad Street House.
Contl. & W.A. Trust	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	104,467	W. Austral	„
Coolgardie Gold ...	⅜ 1 xd	⅜ 1	10/	x.rts.Jun12'96	0 5 0	90,000	Cool. W.A.	Broad Street Avenue
„ Mint & I.Mg.	15/16 1 1/16	1 1⅛	1 0	—	1 0 0	150,000	„	30, S. Swithin's ln.
Croesus So. United	⅜ ¾	9/16 11/16	1 0	—	1 0 0	115,000	Hann'sWA	Blomfield House
Crown United......	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	75,000	—	110, Cannon-st., E.C.
Day Dawn B.&W. G	11/6 12/6	10/6 11/6	1 0	-/6 Sept. 16, '96	1 0 0	498,400	„	16, S. Helen's Place
„ P.C. G	2/6 3/-	2/6 3/	1 0	-/6 Apr., '92	1 0 0	490,000	„	Winchester Ho., E C
Eagle's Nest......	13/16 1 1/16	13/16 1 1/16	1 0	—	1 0 0	2,500	Mt. Margrt	Finsbury House.
East Hauraki	1/6 2/6	1/6 2/6	5/	—	0 5 0	400,000	Haur'ki NZ	„
Explorers Synd. ...	1/16 3/16 pm	1/16 3/16 pm	1 0	2/8 April 29 '96	1 0 0	9,000	W. Austral	Copthall House
Fingall K'ls. Extd	⅜ ¾	⅜ ¾	1 0	1/4 Jan. 16 '96	1 0 0	150,000	„	4, Sun Court
Florence...G	13/16 15/16	11/16 13/16	1 0	—	1 0 0	60,000	„	18, St. Swithin's ln
Gibraltar Cons. ...	⅜ 1	13/16 15/16	1 0	—	1 0 0	300,000	N S Wales	6, Queen-street-place
Gladiator ...G	11/16 13/16	11/16 13/16	1 0	—	1 0 0	—	W. Austral	43, Threadneedle st
Glenrock ...G	/6 1/	/6 1/	10/-	—	0 8 6	450,000	N. Zealand	3-5, Queen-st. E.C.
Golden Cement G	⅜ ⅜	⅜ ⅜	1 0	—	1 0 0	175,000	W. Austral	3, Princes Street, EC
„ Crown...G	1⅜ 1⅜	1⅜ 1⅜	1 0	—	1 0 0	100,000		54, Old Broad Street
„ Gate...G	/9 1/3	/9 1/3	10/	—	0 10 0	150,000	Queensland	34-36, Gresham-st.
„ Horse Shoe...	1 5/16 1 7/16	1⅛ 1⅜	1 0	—	1 0 0	—	W. Austral	13. Helen's Place
„ Link...G	⅜ ⅜	⅜ ⅜	1 0	5/- Oct 30 '95	1 0 0	90,000	„	9-10, King Street, E.C
„ Plum...G	⅜ ⅜	⅛ ⅜	1 0	—	1 0 0	120,000	„	4, Bishopsgate Street
Gold Estates......	1⅜ 1⅜	1⅜ 1⅜	1 0	3/ June 12 '96	1 0 0	60,000	„	20, Bishopsgte-st Wn
Great Boulder ...G	6⅜ 6⅜	6⅛ 6⅜	1 0	5/ Sept. 16, 96	1 0 0	240,000	Yilgarn ...	3, Gracechurch st.
„ „ Junction	1 1/16 1 3/16	1 1/16 1 3/16	—	—	—	—	„	Worc. Ho., Walbrook
„ „ M'n R'fs	1 1⅛	⅞ 1	10/	—	0 10 0	240,000	—	3, Princes Street.
„ Fingall Rfs.	⅜ ⅜	5/16 7/16	1 0	5% Jan. 16, 96	1 0 0	175,000	Kurnalpi	Broad Street House
Gresham Synd. ...	⅛ dis par	⅛ dis par	1 0	4/ &bo. Jn12'96	1 0 0	60,000	W. Austral	13-14, Abchurch ln
Hainault	1 1⅛	1⅛ 1⅛	—	—	—	—	—	82, Gordon st., Glas.
HamptonGoldFlds	⅜ ⅜	⅜ ¾	1 0	—	0 10 0	—	—	9, S. Mildred's Ct.
„ GoldHill	1/3 1/9	1/6 2/	1 0	—	—	—	—	93-94, Gracechurch st
„ Plains...	3⅜ 3⅜	3⅜ 3⅜	1 0	rts May 14 '96	1 0 0	300,000	Cool. W.A.	29, S. Swithin's lane
„ PlainsEx	6/6 7/6	6/6 7/6	1 0	—	0 18 0	180,000	—	Suffolk House, E.C.
Hannan's BrwnHil	3 11/16 3 13/16	3⅜ 3⅜	1 0	—	1 0 0	65,000	„	Broad Street House
„ Devel'pm'nt	1 1⅛	1 1⅛	1 0	—	1 0 0	147,000	—	5, Moorgate-st.-bldgs
„ Main Reef...	5/ 6/	5/ 6/	10/	—	0 10 0	—	Kalg.W.A.	18, St. Swithin's ln.
„ North......	5/16 9/16	7/16 9/16	1 0	—	1 0 0	51,107	„	33, Cornhill.
„ 100 Acre......	⅜ ⅜	⅜ ⅜	1 0	—	—	—	„	Dashwood House.
„ Oroya......	13/16 15/16	13/16 15/16	1 0	—	1 0 0	—	„	20, Bucklersbury
„ Prop......	1⅜ 1⅜	1 3/16 1 5/16	1 0	—	0 10 0	—	„	139, Cannon Street.
„ Reward... G	1 7/16 1 9/16	1 3/16 1 5/16	1 0	—	1 0 0	70,000	Hann.WA	Bartholomew Ho,
„ Star......	1 5/16 1 7/16	1 1⅛	1 0	—	1 0 0	—	E.Coolgde.	Finsbury HouseE.C
Hauraki......G	15/9 16/3	15/ 16/	2/6	1/ Sept. 30 '96	0 2 6	320,000	Coromndl.	Dashwood Ho.; E.C
Herbert Gold	⅜ 1	⅜ 1	1 0	—	1 0 0	85,000	Cool., W.A.	35, Lombard street.
Hit or Miss......	1 5/16 1 9/16	1 1⅛	1 0	—	1 0 0	120,000	„	1, Queen Vict. St.
Idaho ......GS	3/9 4/3	3/9 4/3	5/	-/6 Jan. 16 '96	0 4 8	143,439	W. Austral	Copthall House.
Kabeonga ......G	1/6 1/9	1/6 2/	10/	—	0 9 9	249,250	Queensland	70-71, Bishopsgate st
Kalgurli......	⅜ 1	⅜ 1	1 0	—	1 0 0	34,000	W. Austral	20, Threadneedle-st
Kapanga......G	10/ 11/	10/ 11/	1 0	rts May 24 '95	0 19 6	249,750	N. Zealand	9, New Broad-street
Kathleen	2/6 3/	2/6 3/	2/6	—	0 2 6	600,000	Ha'raki, NZ	Dashwood House
„ Crown...	1/6 2/	1/6 2/	2/6	—	0 2 6	664,258	„	„
Kintore ......G	⅜ ⅜ dis	⅜ ⅜ dis	1 0	—	0 15 0	44,000	W. Austral	13, Abchurch lane.
Komata Queen......	2/3 2/9	2/3 2/9	2/6	—	0 2 6	600,000	Ha'raki, NZ	Dashwood House,
„ Reefs	8/6 9/6	7/6 8/6	5/-	—	0 5 0	200,000	„	„
Kuaunui Caledo'an	⅛ dis ⅛ pm	⅛ dis ⅛ pm	1 0	—	1 0 0	150,000	„	20, G. Winchester St
Kurnalpi.......G	3/ 4/	4/ 5/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch......	1 7/16 1 9/16	1⅜ 1⅝	1 0	—	1 0 0	70,000	„	34-36, Gresham-st.
„ Shenton	1⅜ 2	1⅜ 1⅜	1 0	—	1 0 0	—	—	18, St. Swithin's ln
Limerick	⅜ 1	⅜ 1	1 0	—	1 0 0	52,537	Coolgardie	Leadenhall Buildgs.
Ln. & Con. Invest.	1/16 dis 1/16 pm	1/16 1/16 pm	1 0	—	0 5 0	500,000	W, Austral	79, Queen Street.
Lon. & Globe Fin.	4⅛ 4⅜	4⅛ 4⅛	1 0	rts Mar. 27 '96	1 0 0	150,000	„	15, Austin Friars.
Londonderry......G	2/ 3/	3/ 3/6	1 0	—	1 0 0	467,000	„	1, Gt. Winchester-st.
L.&W. Aust. Expl.	15/16 1 1/16	⅞ 1	1 0	4/-Nov 29 '94	1 0 0	270,100	„	Broad Street Ho.
Lon. W. A. Invest.	1⅛ 1⅜	1⅛ 1⅜	1 0	1/ Aug 13 '95	1 0 0	100,000	„	„
Mainland Cons. G	1 13/16 2 1/16	2 2⅛	1 0	—	1 0 0	150,000	Murchison	54 Old Broad Street
Mawson's Reward. G	⅞ 1	⅜ ⅞	1 0	—	1 0 0	60,000	„	28 & 29, S. Swithin's ln
Menzies Gold Est.	7/16 9/16	7/16 9/16	1 0	—	1 0 0	—	„	Broad Street House
„ Gold Reef	⅜ ⅞	9/16 11/16	1 0	'/ June 26, '96	1 0 0	175,000	„	29a, Old Broad Street
„ (O'Driscoll)	9/16 11/16	9/16 11/16	1 0	—	1 0 0	—	„	16, Tokenhouse Yard
Mills' Day Dawn G	11/16 13/16	11/16 13/16	1 0	-/6 Aug 29 '95	0 15 8	300,000	Queensland	16, S. Helen's Place
Mossman......G	2/ 3/	2/ 3/	1 0	—	0 19 0	185,000	N.S. Wales	Bishopsgate House
Mount Lyell......	7⅜ 7⅞	7⅜ 7⅞	3 0	rts June 26, '96	3 0 0	300,000	Tasmania	Finsbury House
Mount Margaret...	1⅜ 1⅜	1⅜ 1⅛	1 0	—	1 0 0	—	W. Austral	28, St. Swithin's ln.
„ Morgan G	3⅜ 3⅜	3⅜ 3⅜	1 0	-/6 Oct. 15, '96	0 17 6	1,000,000	Queensland	9, Gracechurch-st.
„ Rowe	⅜ ⅜	⅜ ¾	1 0	—	1 0 0	75,000	Coolgardie	44, Coleman Street
MurchisonN.Ch'm	5/6 6/	5/6 6/	1 0	1/- Oct 30 '95	1 0 0	160,000	„	23, College Hill.
N's Hauraki Props	2/6 3/	3/ 3/6	5/	—	0 5 0	320,000	Ha raki, NZ	Dashwood House.
„ Queen ......G	7/ 8/	7/ 8/	1 0	-/6 Sep 12 '95	0 13 8	158,915	Queensland	71-72, King Wm. St.
„ Z. Jubilee	⅜ ⅜	8/ 10/	1 0	—	1 0 0	100,000	U'Th'm'sNZ	20, Gt. Win. St.
Norseman	1⅜ 1⅛	1⅜ 1⅜	1 0	—	1 0 0	200,000	Dundas ...	3?, S. Swithin's lane
North Boulder......	11/16 13/16	11/16 13/16	10/-	rts July 15, '96	0 10 0	—	W. Austral	18, Helen's Place
„ Coolgardie ...	/6 1/	/6 1/	5/	—	0 4 0	400,000	Pilbarra ...	226, Winchester Ho.
„ Kalgurli	⅜ ⅜	⅜ ⅜	1 0	—	1 0 0	—	—	11, Abchurch lane
Omnium G M Assoc	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	80,000	—	Broad-street House
Paddington Cons.	1 1/16 1 3/16	1 1⅛	1 0	—	1 0 0	75,000	W. Feather	77, Bishopsgate-st.
Pambula	⅞ 1	⅞ 1	1 0	—	—	100,000	N. S. Wales	45-46, Broad St. Av'e
Pilbarra G. F.	⅜ ⅜	⅜ ⅞	1 0	2/ May 14, '96	1 0 0	100,000	Pilb, W. A.	38, Coleman-street.
Preeces Pt. Prop.	3/ 3/6	3/ 3/6	5/	—	0 4 6	400,000	Coro. N.Z.	Dashwood House
Ramage Syndicate	1⅜ 1⅜	1⅜ 1⅜	1 0	£2& rts F.13 96	1 0 0	50,000	W. Austral	4, Bishopsgate-st.
Royal Oak......	2/ 2/6	2/ 2/6	5/-	—	0 5 0	400,000	Ha'raki, NZ	Dashwood House.
„ Sovereign ...	1 1⅜	1 1⅛	1 0	—	1 0 0	60,000	Coolgardie	5, Old Jewry, E.C.
Sherlaws	9/6 10/6	8/6 9/6	1 0	—	1 0 0	85,000		Broad Street Avenue
ScottishAustralian	⅜ ⅜	⅜ ⅜	1 0	-/3 Aug., '96	1 10 0	200,000	N. S. Wales	Winchester Ho. E.C.
Scotty's Hauraki...	2/6 3/	2/6 3/	5/0	—	0 5 0	330,000	Ha'raki, NZ	63, New Broad-stree.
Southern Star...	1/3 1/9	1/3 1/9	2/6	—	0 2 6	600,000	Coro. N.Z.	63-4, New Broad-st.
South Kalgurli ...	⅜ 1	⅜ 1	1 0	—	1 0 0	60,000	W. Austral	20, Great Win. St.
Stray Shot & Kual	⅜ ⅜	⅜ ⅜	2/6	—	1 10 0	—	Pilb., W A	30, S. Swithin's lane
Success	2/3 2/9	2/6 3/	2/6	—	0 2 6	400,000	Coro, N. Z.	Dashwood House.
Taitapu G. Estate	2⅜ 2⅜	2⅜ 2⅜	1 0	—	1 0 0	125,200	Nelson, NZ	9, S. Mildred's Court
Tararu Creek	7/6 8/6	7/6 8/6	10/	—	0 8 0	160,000	Ha'raki, NZ	Dashwood House.
Thames Hauraki...	1 1⅛	13/16 1 1/16	1 0	—	1 0 0	300,000	„	54, Old Broad Street.
Tokatea of Hauraki	2/ 2/6	2/ 2/6	5/-	—	0 5 0	530,000	„	63, New Broad St.
Town Prop. of W A	⅞ 1⅛	⅜ 1⅜	1 0	—	1 0 0	250,000	W. Austral	28-9, S. Swithin's-ln
Triumph	3/- 4/-	3/ 4/	5/	—	0 5 0	400,000	Ha'raki, NZ	Finsbury House.
True Blue	5/16 7/16	5/16 7/16	1 0	—	1 0 0	—	„	Dashwood House.
Union Waihi &...	par ⅛ pm	1 1⅛	1 0	—	0 10 0	141,250	Tham's, NZ	11, Abchurch Lane
Victor Walhou...	3/6 4/6	3/6 4/6	10/	—	0 10 0	340,000	K'rghk'NZ	63, New Broad St.
Victory (C.B.)...G	5/ 6/	5/ 6/	5/	—	0 3 10	40,000	Queensl'nd	32, Gresham-st. E.C

AUSTRALIAN AND NEW ZEALAND MINES—(*Continued*).

Name.	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Waihi......G	6⅜ 6⅜	6½ 6⅜	1/	rts Oct 15, '96	1 0 0	180,000	Th'ams NZ	11, Abchurch-ln. E.C
„ G. Junction...	1 1/16 1 3/16	1 1/16 1 3/16	1 0	—	1 0 0	110,000	U'ThmsNZ	18, Finsbury Circus
„ Silverton	1⅛ 1⅜	1⅜ 1⅜	1 0	—	1 0 0	60,000	Oh'n'miNZ	23, College Hill
Waitekauri	4⅜ 4⅜	4⅜ 4⅜	1 0	rts Oct 15, '96	1 0 0	136,000	WKauriNZ	11, Abchurch Lane
„ Central	6/6 7/6	8/ 9/	10/-	—	0 7 6	120,000	„	63, New Broad St.
„ Cross	1 1/16 1 3/16	1 3/16 1 5/16	1 0	—	1 0 0	100,000	„	19a, Coleman Street
„ Extended ...	7/ 8/	6/6 7/6	10/	—	0 10 0	130,000	Ha'raki, NZ	63, New Broad St.
„ United	¼ ½ pm	1 1¼ pm	1 0	—	1 0 0	50,000	„	Finsbury House.
Waratah......G	12/ 13/	10/6 11/6	10/	—	0 10 0	100,000	Crydn, N Z	43, Threadneedle st
Water Trust Min.	⅜ ⅜	⅛ ⅜	1 0	—	1 0 0	120,000	W. Austral	Broad Street House
W. of Nations......	15/16 1 1/16	⅞ 1	1 0	—	0 15 0	—	—	77, Bishopsgate-st.
Wentworth ....G	9/16 11/16	9/16 11/16	1 0	1/- Apl 15 '96	1 0 0	500,000	N. S Wales	4-6, Throgmort. Av.
W. A. Develop's.	⅜ ⅞	⅞ 1⅛	1 0	rts May 14 '96	1 0 0	50,000	—	49-53, Moorgate court
W. Aust. G. Conces.	¾ 1	⅜ ¾	1 0	2/6 Sept 16 '96	1 0 0	£55,000	W. Austral	33, Old Broad st., EC.
W. A. Ex. & Fin.	4 1/16 4 3/16	4 3/16 4 5/16	1 0	rts Mar. 27 '96	1 0 0	200,000	„	51, „
W. Australian G.F.	5⅜ 6	5⅜ 6⅛	1 0	6/- July 30 '96	1 0 0	65,000	Coolgardie	28-29, S. Swithin s-ln
„ „ Mines Dvl	1 1⅛ pm	1 1⅛ pm	1 0	10/ Oct 30, 95	0 15 0	40,000	W. Austral	3, Princes Street
„ Aust. Mining	6/6 7/6	6/ 7/	5/	7½d. Mar. 27 '96	0 5 0	320,000	„	257, Winchester Ho.
„ Aust. Pioneer.	1⅛ 1⅜ pm	1⅛ 1⅜ pm	1 0	10/ June 12 '96	0 15 0	19,993	„	139, Cannon-street.
„ „ Share Corp.	⅜ ½ pm	⅜ ⅛ pm	1 0	—	0 10 0	200,000	„	28, St. Swithin's ln
„ „ Venture......	¾ 1⅛ pm	1 1⅛ pm	1 0	15/ Oct. 30 '95	0 15 0	—	„	3, Princes Street.
West Boulder	7/16 9/16	7/16 9/16	—	—	—	—	—	
White Feather ...	1⅞ 2	1⅜ 1¾	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Woodstock	2 1/16 2 3/16	2 1/16 2 3/16	1 0	—	1 0 0	137,500	Kraghk NZ	6, Drapers Gardens
Zeehan Montana S	par	par	1 0	-/3 Oct. 15, 96	1 0 0	66,000	Tasmania	11, Queen Victoria st
„ „ ...	—	—	1 0	-/6 Oct. 15, 96	0 12 6	12,000	„	„

EUROPEAN MINES.

Name.	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alamillos L	1⅛ 1¾	1⅛ 1¾	£ 2 0	2/- Sept 16 '96	2 0 0	35,000	Spain	6, Queen-street-place
Consett Ore	7⅛ 7⅜	7⅛ 7⅜	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st, N'castle.
Fortuna L	1 1¼	1 1¼	2 0	1/3 Sept 18 '96	2 0 0	25,000	Spain	„
Libiola.........C	1⅞ 2⅛	2⅞ 2⅛	5 0	2/- Sept. 30 '96	5 0 0	60,400	Italy	Dashwood Ho., E.C.
Linares L	5⅜ 6	5⅜ 6	3 0	10/ Sept 16 '96	3 0 0	14,998	Spain	6, Queen-street-place.
Mason & Barry...C	2⅜ 3⅛	2⅞ 3⅛	5 0	2/ May 23 '94	5 0 0	185,172	Portugal	87, Cannon-street.
Pestarena ....G	5/ 6/	5/ 6/	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud ......SL	—	—	20 0	11/6 Dec. '96	20 0 0	14,000	Coueron...	„
Rio Tinto C	24⅜ 24⅞ xd	24⅜ 24⅝	10 0	18/-Oct. 29, '96	10 0 0	325,000	Spain	30, St. Swithin's-lane
„ (1st Mrt. Bds)	101 103	101 103	100 0	4% Oct. 1, 96	100 0 0	£3600,000	„	„
Ripanji ....SQ	—	—	1 0	—	0 19 0	95,000	Servia	120, Bishopsgt-st. Wn
Tharsis.........C Sul	5¾ 6	5⅜ 5⅞	2 0	7/- Apr 29 '96	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	3% June 30 '96	10 0 0	1,500	Germany	Walbrook Ho., E.C.
„ Prussian Pre.	—	—	10 0	8% June 30 '96	10 0 0	5,450	„	„
„ Prussian Or.	—	—	1 0	4% Dec. 31, '95	10 0 0	14,050	„	„
Wohlfahrt L	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia ...	17, Victoria-st., S.W.
„	—	—	1 0	3% Dec. '94	0 10 0	9 090		„

NORTH AMERICAN MINES.

Name.	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alaska Mexican...G	1⅜ 1⅜ xd	1⅜ 1⅞	$5	4 4-5d Oc. 29 96	$5	173,500	Alaska......	30, St. Swithin's-ln.
„ Treadwell G	4⅞ 5⅛ xd	4⅞ 5⅛	$25	1/6 Oct. 29, '96	$25	200,000	„	„ „
Anaconda C	6½ 6⅞ xd	6 6⅛	$25	62½ct My 2 '96	$25	1,200,000	Montana...	„ „
Arizona (Pref.) Cu	55/ 55/6	53/6 54/	4 0	1/6 July15, '96	4 0 0	158,920	Arizona ...	74, Geo.-st., Edinbor.
„ 6% A Deben.	109 110	109½ 110½	100 0	6½% May14'96	100 0 0	£135,300	„	
„ 7% B Deben.	100	99 99½	100 0	7% May. 14 '96	100 0 0	£181,300	„	
De Lamar.........GS	12/ 13/	12/6 13/6	1 0	1/- Feb. 13 '96	1 0 0	400,000	Idaho	6, Drapers-gardens.
Doric.............G	6/ 7/	6/ 7/	5/	—	0 5 0	125,000	Colorado...	Broad Street House.
Gen. M'g. Assoc. ...	5⅛ 6	5⅛ 5⅜	5 10	12/-May 14 '96	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	3/16 5/16	3/16 5/16	1 0	—	1 0 0	180,000	California	St. Stephens Cs E.C
„ Gate ......G	3/6 4/6	3/6 4/6	1 0	—	0 19 6	79,600	„	
„ Leaf...... G	-/9 1/3	/9 1/3	1 0	—	1 0 0	300,259	Montana	6, Draper's Gardens
Hall Mines	1⅜ 1¾	1 11/16 1 13/16	1 0	—	1 0 0	250,000	Brit. Col.	1, Leadenhall St., EC
Harquahala... .. G	/6 1/6	/6 1/6	1 0	-/6Nov.14,'94	1 0 0	300,000	Arizona ..	6, Draper's Gardens.
Holcomb Valley G	/3 /9	/3 /9	5/	—	0 5 0	540,000	California	14, Cornhill, E.C.
La Plata............S	—	—	5/	1/3 Oct. '82	0 4 6	405,000	Colorado	11, Poultry, E.C.
La Yesca ....GS	-/9 1/3	/9 1/3	1 0	—	1 0 0	200,000	Mexico ...	20, Bucklersbury, EC
Montana .... GS	2/6 3/6	2/6 3/6	1 0	-/3 June 26 '96	0 19 0	657,158	Montana	Gresham House, E.C
Palmarejo ......GS	1/3 1/9	1/3 1/9	1 0	—	1 0 0	418,888	Mexico ...	32, Old Jewry, E.C.
PinosAltos(Dl)GS	—	—	1 0	-/6 Mar.' 90	1 0 0	100,000	„	110, Cannon-street.
Richmond ...GSL	⅝ ⅞	⅝ ⅞	5 0	1/- Dec. 16 '95	5 0 0	54,000	Nevada ...	44, Coleman street.
Sierra Buttes ...G	⅛ ⅜	⅛ ⅜	2 0	-/3 Apr. 29 '96	2 0 0	122,500	California	138, Leadenhall-st
„ Plumas Eur. G	¾ ⅛ xd	¾ ⅛ xd	2 0	-/6 Oct. 29 '96	2 0 0	140,265	„	
Springdale.........G	-/3 -/9	/3 /9	$1	-/2 Sep. 28, 9	$1	1,000,000	Colorado	20, Abchurch Lane
Twin Lake Placers	1⅛ 1⅜	⅞ 1	1 0	3/- Feb. '95	1 0 0	6,000		5, Lawrence P. Hl, E

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, Nov. 6, 1896.	Closing Price, Oct. 30, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Anglo-Chilian Pf N	8¼ 8¾	8¼ 8¾	10 0	7/0 Feb. 27 96	10 0 0	35,000	Antofagst.	123, Bishops,-st. W
„ 4½ Rylst MB	88 91 xd	92 94	100 0	4½% Nov 3 '96	100 0 0	£410,5?0	„	
Argen.Concessions	/1⅛ /4⅛	/1⅛ /4⅛	2/	—	0 2 0	150,000	S. Luis ...	3 & 5, Queen Street.
Caylloma............S	13/16 15/16	⅞ 1	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall stree
Colorado Nit. ...N	⅛ 1	⅛ 1	5 0	2/6 Dec. 16, '95	5 0 0	32,000	Chili	12, King-st., Liverp'.
Colombian Hy...G	5/16 7/16	5/16 7/16	1 0	1/- Jy 26, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo C	2⅛ 2⅜	2⅛ 2⅜	2 0	2/ May 29, '96	2 0 0	100,000	Chili	DashwoodHouse, E.C
Darien "A" ......G	5⅛ 6	6 6¼	1 0	—	1 0 0	49,553	Colombia	Manchester.
„ "B"	7 7⅛	7⅛ 7⅜	1 0	x.nwApr 29 '96	1 0 0	30,000	„	„
El Callao ....G	⅛ ⅜	⅛ ⅜	5 0	9½d. Feb. '94	5 0 0	257,600	Venezuela	8, Bishopsgt.-st, Wn
Frontino & B. ...G	1⅜ 1⅝	1¼ 1⅝	1 0	9d. Oct. 15 96	1 0 0	128,662	Colombia	184, Gresham House
Glenrock ....G	/6 1/	6/ 1/	1 0	—	1 0 0	199,948	Arg. (& I.)	3-5, Queen-street, E.C
Guadalupe .....GS	—	3/6 5/	1 0	—	1 0 0	120,000	Honduras	1a, Union ct. Old Brd
Java'l ....G	—	—	2/-	—	0 2 0	105,769	Nicaragua	139, Cannon-street.
Lagunas ....N	1⅞ 2⅛	1⅞ 2⅛	5 0	15p.c.Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st;
Lautaro ....N	5⅜ 6	5⅜ 6	5 0	5/- June 26 '96	5 0 0	110,000	Chili	70, „
Liverpool ....N	7⅜ 8⅛	7⅜ 8⅛	5 0	15/- May 14, 96	5 0 0	22,000	„	Liverpool.
London Nit........N	2 2⅛	2 2⅛	3 0	3/4¾ Nov. '95	5 0 0	10,000	„	9, Gracechurch-st.
„ Nit.(Pref.)	3⅛ 4	3⅛ 4	5 0	5% Nov. 28 '95	5 0 0	22,000	„	„
New Julia.......... N	—	—	—	—	—	—	—	
„ Tamarugal N	1/16 3/16	1/16 3/16	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	56, Lime-street, E.C
„ 8% Cum Pref	5/16 7/16	5/16 7/16	1 10	8 p.c. Feb. '95	1 10 0	130,000	„	„
„ 6 p.c. Debs ...	78 82	78 82	100 0	6 p.c. Feb. '96	100 0 0	£260,000	„	„
Nueva Esperanza	/6 1/	/6 1/	5/	—	0 5 0	160,000	Colombia	6, Copthall Bu'ld'ngs
Orita ....G	/3 /9	—	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street
Ouro Preto ... . G	—	—	1 0	1/- Feb. '96	1 0 0	100,000	Brazil	8, Queen-street-place
Pac. & Jazpampa N	11/16 13/16	¾ 1	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Phœnix	-/9 1/3	-/9 1/3	10/-	—	0 8 0	400,000	S. Luis ...	3 & 5, Queen Street.
Rosario ....N	4⅜ 5⅜	4⅜ 5⅜	5 0	3/- Aug. 13 '96	5 0 0	120,000	Chili	7½ OldBroad-street
„ (5% Deb.)	102 105	102 105	100 0	5% Oct. 1 '96	100 0 0	£475,000	„	
„ Hu'r' Db Scrp	103 106	103 106	100 0	5% July 1 '96	100 0 0	£200,000	„	„
St. John del Rey G	⅜ ⅞	⅜ ⅞	1 0	x.rtsNov 19 '95	1 0 0	327,650	Brazil	Finsby.Ho., Blmf'd st
San Donato ... ..N	⅜ 1⅛	⅜ 1⅛	5 0	2/6 May 24 '95	5 0 0	32,000	Chili	12, King-st., Liverpl
„ Jorge ....N	4⅜ 5⅜	4⅜ 5⅛	5 0	5/ Oct. 15 '96	5 0 0	75,000	„	9, Gracechurch-st
„ Pablo ....N	1⅛ 1⅛	1⅛ 1⅛	5 0	5/-Oct. 30 '95	5 0 0	32,000	„	
„ Sebastian ...N	⅞ 1⅛	⅞ 1⅛	5 0	4/ July 15 '96	5 0 0	29,000	„	Dashwood House E.C
Santa Barbara ...G	⅛ ⅜	⅛ 3/16	10/	1/3 Dec. '88	0 10 0	60,000	Brazil	Liverpool
„ Elena ......N	⅜ ⅜	⅛ ⅜	5 0	5/-Nov. 15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
„ Rita ......N	3⅛ 3⅜	3⅛ 3⅜	5 0	10/May 29 '96	5 0 0	20,000	Chili	DashwoodHouse, E.
Tolima "A" ......S	5⅜ 5⅛	5⅛ 5⅜	5 0	5/-Mar. 12 '96	5 0 0	14,000	„	18, Finsbury-circus
„ "B" ......S	3⅜ 4⅛	3⅛ 4⅛	5 0	5/- Mar 12 '96	5 0 0	6,000	„	„

THE CYANIDE PROCESS.*

ZINC v. ELECTRICITY.

(*Continued from page* 1390.)

ELECTRICAL precipitation, as devised and patented for cyanide solutions by Messrs. Siemens and Halske, is the only other method which has been able to bear the ordeal of practice. Introduced at the Worcester mine in 1894, particulars of its trials there were placed before this society by Mr. Von Gernet in August of that year. The results put forth were favourable to the process, and through its agency material economy in the treatment of tailings was anticipated, and for some time the impression obtained that zinc would be ousted by the new process. The advantage claimed for electricity was that solutions exceedingly weak in gold and cyanide were effectively deprived of their precious metal, thus permitting the use of very dilute solutions, and thereby economising cyanide and reducing the cost of treatment. The main feature of the plant is the great boxes containing the electrodes. The Worcester installation, having a capacity of 3000 tons per month, had four of these boxes, each 20 feet by 8 feet by 4 feet. The iron anodes were ¼ inch thick, and were 7 feet long by 3 feet wide. Between these were the cathodes of thin sheet lead, stretched over wires carried by light wooden frames. The solution passed slowly up and down between the anodes, and the electric current passing between cathode and anode gradually deposited the gold upon the former. The generation of the current, for which a dynamo is required, needed about 5 horse power. The anodes are covered with canvas to prevent short circuiting, and, owing to the combined action of the current and the solution on the iron, Prussian blue is formed. The strongest solution used on the tailings with this method is about ·1 per cent., and the number and capacity of the leaching vats has to be such as to permit of the tailings remaining longer under these solutions than those in use with zinc precipitation. The length of treatment the tailings undergo varies from 4 to 10 days.

The clean up takes place only every six or eight weeks, reducing the number of these operations, having the effect of lessening the cost of lead, &c., per ton of tailings treated. This clean up consists of taking the lead sheets off their frames and replacing them by others, the auriferous sheets being melted down and then dispatched to an independent works for cupellation; transforming the precipitated gold into bullion is thus not completed at the mine. The bullion produced is somewhat finer than that yielded by the zinc process. The type of box introduced at the Worcester and the May Consolidated mines left much to be desired. Their great size was very much in evidence. A box of new design has recently been brought forward which is an advance on the old pattern in some respects. Their dimensions are less, and the proportion of anode to cathode is smaller, whilst the method of making the connection with the electrodes for the current is simpler. Two of these boxes have been put in at the May Consolidated mine, and four at the Crown Reef mine, for the slimes treatment. The former plant now consists of four boxes of the old pattern and two of the new type, a 20 horse power engine having been put down to furnish the power necessary for them and the solution pumps. Whilst the reduced size of the new boxes is an advance, their dimensions are still great, those of the Crown Reef being 30 feet by 4 feet by 6 feet, each divided into six compartments. The labour required by the lead cathodes has also been increased by the adoption of strips of lead as cathodes, instead of the sheets of the old boxes. Another alteration in the design is placing the electrodes parallel with the length of the box and reducing the number of times the solution rises and falls in traversing the latter. Owing to the expensive nature of the plant and the larger number of vats required, the initial cost is greater than that of a plant designed for zinc precipitation. For a plant to treat 500 tons of tailings per day, this extra cost entailed by adopting electrical precipitation as against zinc would, at the lowest estimate, be £5000.

At the George Goch Amalgamated mines there are two independent cyanide plants, each at present treating about 4000 tons per month. One—formerly the Metropolitan plant—was designed for electrical precipitation (since discarded for zinc), whilst the other was laid out for the zinc process. I am informed that the first plant has cost the mine, approximately, £13,000, and the latter £8000. In comparing these figures, it is only fair to mention that, although the tonnage being treated in the two plants is at present the same, the vat capacity of the Siemens-Halske plant is somewhat greater than that of the other, and there are intermediate vats in connection with it. About six Siemens-Halske plants are now at work on the Rand.

This brief review of the more salient features of the two methods of precipitation, and their application on the Rand, paves the way to their comparison, which I will now open by throwing their special structural features into relief. With

The Zinc Process

we have a number of vats sufficient to permit of a treatment of about four days, pumps, several extractor boxes (seldom of dimensions exceeding 30 feet by 3 feet by 3 feet), with their necessary zinc and lathe, a filter press, acid and clean up vats and furnaces, the whole forming a plant complete in itself, and with which every step in the production of bullion from tailings can be carried out. Power is needed for the pump and lathe.

Electrical precipitation requires a larger number of vats, in the proportion of about two to three, owing to the use of the more dilute solutions. The precipitation boxes are of great size and of an expensive nature. A dynamo is required for the generation of the current, pumps for the solution, and a furnace for the lead. The dynamo necessitates extra power as compared with zinc precipitation, another 5 i.h.p. being needed with a 3000 ton plant. As installed at the mines, the plant is not complete, being dependent on a customs works for the cupellation of its lead.

Let us now examine what the two methods are doing. The strong solution in general use with zinc is about ·3 per cent., and the weakest about ·08 per cent. Solutions carrying from ·2 per cent. to mere traces of free cyanide pass through the extractor boxes, and it is not unusual to have the gold value of the sumps down to ¼ dwt. and less per ton, whilst under ordinary conditions 1 dwt. per ton is now coming to be accepted as the highest value compatible with careful work. I would instance the Treasury, the City and Suburban, the Meyer and Charlton, and the Salisbury and the Jubilee plants as demonstrating what zinc is capable of, some of the sumps of these plants frequently carrying a few grains only.

With electrical precipitation the "strong" solution is about 1 per cent. and the weakest about ·01 per cent. For some time after the introduction of the process the value of the sumps was somewhat high, but the working has been improved, and to-day, so far as I have been able to ascertain, the gold contents of the sumps range from ¼ dwt. upwards per ton, the average value not infrequently being 1 dwt. and over. There may be exceptional cases in which electricity would rise superior to zinc in this matter, but in general practice there appears little to choose between the two methods in this connection; both have shown themselves capable and both have exceptions, instances of sumps of unsatisfactory value are come across with each, and owing to the widespread use of zinc we naturally hear more of its failings than those of electricity. It is not surprising that, with a process so extensively adopted as zinc, difficulties should occasionally be experienced; these, however, have been met in a manner more or less satisfactory.

It is reasonable to assume that the majority of our cyanide managers are using solutions of strengths which they believe are calculated to yield the best results. If this be admitted, we are confronted with the fact that solutions of about ·3 per cent. are in general use, and that zinc has, for some years past been dealing with these solutions in a most efficacious manner. If solutions of this strength are best adapted for Rand ores, then the scope of electrical precipitation in connection with the treatment of tailings is indeed limited, for not even its stoutest supporter would care to advocate its general use in connection with such solutions. On the other hand, if we grant that our cyanide managers are using solutions which they know not to be the best, and that solutions of the strength customarily used with electrical precipitation would dissolve the gold equally well and in a reasonable time, it still remains to be proved that it is advantageous to adopt this method in preference to zinc.

Very weak solutions do not in practice always show a solving efficiency equal to stronger ones; with some tailings comparatively strong solutions are essential to good extractions. The Metropolitan plant, which I have previously mentioned, affords a case of great interest. It was designed for the use of very dilute solutions—about ·1 per cent.—and electrical precipitation. The latter was run intermittently with zinc during a period of about 11 months, this being the only case, I believe, where anything like a thorough comparative trial of the two methods, side by side, has been attempted. The result was pregnant with significance, as will be seen when we come to touch on the subject of extractions. I am advised that the failure of the Siemens-Halske method in this trial lay not so much in the precipitation—although this was not all that could be desired—as in the inability of the very dilute solutions to dissolve the gold satisfactorily. The trial resulted in the discarding of electricity and weak solutions, and the adoption of zinc and stronger solutions, the strength now in use being ·4 per cent. This is evidence showing that very weak solutions and the Siemens-Halske method of precipitation cannot be applied in every case with advantage. I here ask your indulgence for a moment that I may record my appreciation of the value of electrical precipitation in a connection other than the treatment of tailings. The slimes problem, as it is at present being attacked, is based upon the use of excessively dilute solutions of cyanide. The strongest solution at the Crown Reef slime works is ·008 per cent., the washes being proportionately weak. Zinc would not give satisfaction with such solutions, and the present treatment has undoubtedly been rendered possible by electrical precipitation.

Returning to our comparison, I would now entertain the question of extractions.

(*To be continued.*)

* Paper read before the Chemical and Metallurgical Society of South Africa by Mr. John Yates.

DIRECT METHOD CONSIDERED AS THE FUTURE METALLURGICAL TREATMENT OF COPPER ORES, ARGENTIFEROUS OR OTHERWISE.*

By CHRISTOPHER JAMES.

(*Continued from page* 1383.)

AGAIN, the expense of taking away the ashes from a number of grates must be more than their removal from a single generator would entail.

Besides, the gas furnace is a much cleaner furnace to work. The regulation of the temperature is more easily and quickly effected, and the production at will of an oxidising or reducing atmosphere should lead to more scientific smelting.

Above all, the use of the gas furnace prevents a very important loss of copper. All must admit that some of the contents of a furnace reach the grate and become lost with the ashes. The dust that arises during charging, and the spurting that takes place during melting, and the splashing due to rabbling, all contribute to enrich the ashes of the grate. And, possibly, one who has not systematically assayed the ashes would be loth to believe that they constituted such a very serious source of loss.

The attempt to utilise the sulphur dioxide by converting it into sulphuric acid is to be commended, as it leads not only to an economy, but to the comfort of the workmen and the neighbours.

The most important improvement which this attempt has led to is the adoption of the Gerstenhoer calciner. This is a special furnace, working automatically and without the necessity to apply heat from without except at starting. It consists of a simple rectangular tower, into which the finely-ground ore or regulus is fed by allowing it to fall from the top. The stream of powdered material is regulated by passing it through moving rollers, which can be separated or approached to increase or decrease respectively the rate of feeding. The fall of the powder is broken by triangular bars built in across the tower with one of the flat sides of each bar level. These bars arranged in rows, the spaces between the bars in one row corresponding with the position of the bars in the next row below. As the powder falls from bar to bar it meets an upward current of heated air drawn in at the base of the tower. To start the operation this air must be heated by a coke fire, but afterwards the heat is maintained by the combustion of the sulphur and the iron burning as the powder falls.

The degree of calcination effected depends upon the size of the grains and the rate of feeding. The smaller the grains and the higher the temperature the more complete will the calcination be.

If the temperature should fall off, it may be regained by increasing the rate of delivery of the powder.

The operation cannot be stopped for any length of time without losing the heat entirely, in which case a fire is needed to restart it. The powdered regulus or ore is carried from the mill to the receptacle above the rollers by means of an archimedean screw working in a trough.

The calcined product is drawn off from below as it accumulates, but in such a way as always to leave only the required air way. Mechanical calciners of the O'Hara type have not yet been tried by the Welsh copper smelters.

The Continental Method of Copper Smelting.

This method is distinguished from the Welsh method by the entire absence of reverberatory furnaces. The calcinations are conducted in heaps or kilns. The meltings in blast furnaces, and the refining in an open hearth.

The reactions are, however, generally the same as those of the Welsh method, except that in the melting furnaces the presence of the fuel in contact with the charge exerts a reducing action not experienced in the reverberatory, and the consequence is that more iron and other impurities pass into the regulus; at the same time and for the same reason the slags are freer from copper.

Instead of the roaster process, the regulus is calcined dead, and the product reduced to black copper by carbon.

Like the Welsh method, and even more so, variations are practised in different localities to suit local needs, but the typical method can be divided into five operations:—

Calcination of the ore.
Melting for regulus.
Calcination of the regulus.
Melting for black copper.
Refining.

Where the mineral to be treated is moderately pure, and the average richness not less than 5 per cent. of copper, this typical method would not be departed from to any great extent.

Calcination of the Ore.—This is generally performed in heaps. The heaps are about 30 feet square at the base, tapering upwards, for there are no sustaining walls whatever.

A bed of brushwood is first formed so that air can circulate between them. On this bed the ore is charged, the larger pieces first. When the ore contains much zinc blende it is piled in layers alternating with layers of charcoal. The piling is continued until the heap is 10 or 12 feet high. Fine ore is then spread over the heap and beaten close so as to form a nearly impermeable covering. A central airway is maintained by piling logs of wood so as to leave a space which acts as a chimney during the first stage of the operation. The heap is lighted by throwing a few burning logs down this chimney. When the heap is well alight, the top of the chimney is closed. The combustion can be hastened at any desired point by piercing holes in the covering. The whole operation lasts several months.

The calcination is never regular, the smaller pieces are always better burnt than the larger ones; in fact, many pieces are only burnt on the outside, when the copper will be found concentrated towards the middle of the lump.

If the temperature has been allowed to rise too high the ore will melt, and the melted lumps must be broken up and added to a fresh heap.

Fusion of the Calcined Ore.—The operation is conducted in high-blast furnaces. These are of various forms. At Mansfield they use a round furnace, slightly tapered, and built on pillars. It is about 30 feet high, with a diameter of about 6 feet at the lower part and 7 feet at the mouth. It is a closed-mouth furnace, the draft being led into an adjacent stack.

The calcined ore, together with rich slags and sometimes limestone for flux, is charged into this furnace at the rate of nearly 40 tons in 24 hours. The fuel is coke, and sometimes charcoal is used as well.

Little change takes place in the materials of the charge in the upper part of the furnace, but as the charge descends it becomes hotter, and the oxides begin to be reduced by the action of carbon monoxide. The sulphates also decompose, giving off sulphur dioxide.

Lower down fusion commences, and then the most important reactions are brought about. The oxidised compounds of copper become completely decomposed by the action of sulphide of iron, and a copper regulus is formed which collects at the bottom of the well.

The oxide of iron combines with the silica of the gangue to form a slag; the slagging of the gangue is also assisted by the limestone added, and by any other base that may be present in the ore. The slag is very free from copper. Oxide of iron also becomes reduced to some extent, and the iron then enters the regulus. The amount of iron so reduced will depend upon the rate of working; if it proceeds very slowly, much iron will be reduced, and the regulus will become very ferruginous. There is also, under these circumstances, a tendency to produce an "eisensau" (a lump of metallic iron) in the well, which, being nearly infusible at the temperature of the furnace, will block up the well, and give a lot of trouble to remove.

As in the case of the coarse metal furnace of the Welsh method the regulus should not be too rich nor too poor in copper. It should be rich enough to avoid the necessity of an intermediate concentration melting, but not rich enough to cause a foul slag. About 30 per cent. of copper is a convenient pitch to aim at.

Calcination of the Regulus.—This calcination is conducted in kilns. They are simple chambers formed by brick walls on three sides, but open in front and on top. Each chamber is 11 feet long, 4 to 5 feet broad, and 5 feet high. They are generally built in groups of 24, 12 on each side of a central wall.

In charging, a layer of wood is placed on the floor of a chamber, and the broken pieces of regulus piled on the wood. The wood is lighted, and the calcination proceeds.

At the end of a couple of days the heat becomes exhausted; the kiln is then discharged. The partly calcined regulus is now piled on another layer of wood in an adjacent chamber, and fired once more.

In order to calcine it as nearly sweet as possible, this operation has to be repeated about six times. The amount of wood is increased at each operation, and combustion further assisted by interlaying some fine charcoal in the later firings.

The entire series of calcinations lasts about two months.

Melting for Black Copper.—This is done in a much smaller furnace than the one used for the first melting. It is generally of quadrangular section. In other respects there is little difference in construction.

The calcined regulus is mixed with refinery slags and some siliceous material, such as oxidised ores of copper, or furnace *debris*, or, if there be not enough of such material in stock, then some of the ore furnace is added to provide the necessary silica.

The essential reactions which occur are the reduction of oxide of copper to the metallic state by contact with the carbonaceous fuel and the atmosphere of carbon monoxide, and the union of the oxide of iron with silica to form a basic slag.

The melting is quickly effected and at a comparatively low temperature, so there is little danger of reducing the oxide of iron.

The slag always carries a little copper, and the tapped pigs of black copper are covered with a scale of regulus, owing to the practical impossibility of calcinating the regulus absolutely sweet.

The thin regulus is broken off when the pigs are cold and returned to the kilns for re calcination.

Refining the Black Copper.—The old method of refining—the typical method of the Continental process—was to melt the black copper in an open hearth with charcoal fuel; the impurities oxidised away and the copper was rendered "dry" by the blast current. When the copper had become quite saturated with oxide of copper, and red in colour, it was removed from the hearth in the form of "rosettes." This was done by allowing the surface of the copper to chill, sometimes hastening the chill by sprinkling water on the surface, and then lifting off the solidified cake thus formed. By repeating the chill another cake could be lifted off, and this was continued until the cavity of the hearth was empty.

These "rosettes" were afterwards melted in a smaller hearth, where the reduction of the oxide of copper was effected. To assist the charcoal fuel in doing this, branches of green wood were used to bring about a sort of poling action.

The required tough pitch was ascertained by the examination of trial pieces taken out from time to time, as in the Welsh method.

This is the old and typical method of refining black copper. But now, nearly everywhere, possibly in all cases, the Welsh method of refining in reverberatory furnaces has been adopted. Rosette copper is, therefore, an obsolete product.

(*To be continued.*)

* A paper read before the Institution of Mining and Metallurgy.

THE NOURSE DEEP (LIMITED) is now prepared to issue share warrants to bearer in exchange for registered shares.

THE NUNDYDROOG COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £15,275 7s. 9d.

THE WORCESTER EXPLORATION AND GOLD MINING COMPANY LIMITED) have declared a dividend of 15 per cent., payable to all shareholders registered on November 4. The transfer books will be closed from the 4th to the 26th November inclusive.

THE WESTRALIAN PREMIER GOLD MINES LIMITED.

THE following Circular (No. 4) has been sent to the Shareholders: The Board beg to inform you that they have resolved to make the following calls on the shareholders of the Company: 5s. per share, payable on 30th November 1896; 5s. per share, payable on 31st March 1897. In announcing these calls the Board have to say that the usual report and accounts will be placed before the shareholders when the final accounts, made up to 30th September last, have been received from the mines. The initial difficulties of this company have been very great, chiefly owing to the channel through which the business was brought to the company, and possession of the mine was obtained only after considerable sums had been expended by the company in fulfilling the labour conditions, and valuable time was lost. Fortunately for the company, the Board was able at an early date to place the local superintendence of the mine in the charge of Professor William Nicholas, Mining Engineer, of Coolgardie, who has done a large amount of exploration work in the mine in a most economical manner, and who, after long consideration and frequent careful personal inspections of the upper workings, recommended in June last that a main shaft be sunk to test the reef to a depth of at least 200 feet. This shaft, in September, was down 62 feet, and in Professor Nicholas's letter, dated 16th September, he says: "The chief point of interest (on the 11th September last) was found in the extension of the 50 feet level from the No. 3 shaft south. This level is now 84 feet south of the No. 3 shaft cross cut. Quartz has been improving in character, and occasionally shows a little fine gold. As the end of this level is approaching to the vertical line of the No. 6 shaft, with the air getting bad, I requested the manager to sink No. 6 shaft, in order that we may hole through, and thus ventilate this portion of the mine. The extension of this level has proved that, beneath, the shoot of gold discovered by this Company at the south end of the mine has reformed in a new splice of stone at a greater depth. The last remark is inferential, but the sinking of the No. 6 shaft will decide this question beyond doubt. *Should it be proved as I believe it to be, the prospects of the mine at this end have been materially improved during the last few weeks.*" This gives encouragement to the Board to go on sinking the main shaft, which is now being done, and the calls are made to furnish funds for this purpose. The Board recently approached the vendors of the mine, and pointed out that the 90,000 shares given to them for the property might have been fair consideration for the mine if it had come up to anything like the expectations held out in the original reports; but as these reports had not been confirmed, the shares held by the vendors are out of proportion to the subscribed capital of the company. The original distribution was as follows: 15,000 contributing shares and 90,000 vendors' shares, total 105,000 issued shares—the vendors' shares being equal to *six-sevenths* of the issued capital. It should be remembered that the total registered capital of the company is 125,000 shares of £1 each, of which 20,000 are held in reserve for further working capital. The Board have succeeded in obtaining a surrender of 30,000 shares from the vendors to be transferred for the benefit of the contributing shareholders. This makes the altered distribution as follows: 15,000 contributing shares, 30,000 vendors' shares (transferred) —15,000; 60,000 vendors' shares; and the shares left in the possession of the vendors are thus now equal to only *four-sevenths* of the issued capital. The 30,000 shares above referred to have been transferred by the vendors into the names of two trustees to be re-transferred to the individual shareholders on paying these calls, and transfer stamp, in the proportion they are entitled to. *Any one wishing to do so can pay up both the calls at once, and receive the shares immediately after payment. No machinery has been or will be ordered until a payable reef of sufficient size has been proved to justify such expenditure.* The Board have considered the possibility of the main shaft proving the poverty, rather than the richness, of the mine at depth, and in view of this they are prepared, when the time comes, to reconsider the advisability of continuing operations on the present leases, *and of the acquisition of another mine in the neighbourhood* more likely to be profitable than the mining leases now being worked. The encouragement recently received makes the Board hopeful that the alternative will not be necessary. One of our shareholders, Mr. M. T. Brown, B.Sc.A.M. Inst.C.E., being in Australia on other mining business, visited the mine of the company on two occasions, in June and September last, respectively, along with Professor Nicholas. The Board have had the advantage of a report from Mr. Brown, which he has been good enough to give them. Complaints have been made by some of the shareholders of the scarcity of information given them, but the general information which Professor Nicholas had to give was given and published in the financial papers from time to time. Any possible success yet to come to the company must arise from the way the mine has been handled. The Board request shareholders to note that the only circulars issued by them are numbered consecutively in the corner, this being No. 4.—By order of the Board, A. R. GILLHAM, Secretary, Suffolk House, E.C.

INDIAN MINES' OUTPUT FOR OCTOBER.

THE output of the mines for October was 28,107 ounces, showing an *increase* of 668 ounces as compared with the preceding month, and an *increase* of 5806 ounces as compared with the corresponding month of 1895. The production in ounces since the beginning of 1892 has been as follows:—

	1892.	1893.	1894.	1895.	1896.
January ...	11,674	16,844	17,026	19,672	29,986
Feverary ...	11,780	16,656	15,803	19,358	27,418
March	11,579	17,463	16,080	20,257	26,171
April.....	11,813	18,287	15,551	20,399	26,866
May	12,488	17,922	16,543	20,797	26 840
June.....	11,847	16,879	15,459	20,839	25,751
July	13,277	16,676	18,271	19,280	26,119
August	14,854	16,692	19,073	20,704	26,789
September..	15,529	17,060	18,911	21,502	27,439
October ...	15,922	17,440	19,119	22,301	28,107
November..	15,942	17,557	18,825	22,545	—
December..	16,435	17,659	19,068	22,652	—
Total ...	163,140	207,135	209,729	250,306	271,436

The outputs in ounces of the individual mines for the past six months have been:—

	May.	June.	July.	Aug.	Sept.	Oct.
Mysore.....	8,845	8,955	9,038	9,133	9,328	9,331
Champion Reef	6,739	6,643	6,433	6,617	7,011	8,004
Ooregum	6,029	5,332	5,288	5,109	5,021	5,037
Nundydroog ...	3,571	3,589	3,803	3,918	4,080	4,081
Coromandel ...	580	620	710	720	810	792
Mysore W. and Wynaad ...	706	422	452	474	285	317
Balaghat Mysore	268	306	211	237	182	278
Mysore Reefs..	102	94	—	137	128	203
G.F. of Mysore	—	—	—	—	—	64
Total.....26,840		25,751	26,119	26,739	27,439	28,107

LA CAMPANA MINING COMPANY announce that a general meeting of shareholders will be held at Winchester House on Thursday, the 19th inst., at 2 o'clock, when the Vice-President of the company, the Hon. Browster Cameron, will address the meeting, and give some particulars as to the present position and future prospects of the company.

THE MYSORE REEFS (KANGUNDY) COMPANY (LIMITED) have sold the gold produced in September for £436 19s. 6d.

REPORTS FROM THE MINES.

BRITISH MINES.

DEVON GREAT CONSOLS.—William Clemo, November 5: We have nothing very new to report on during the present week. A skip road has been fixed in the field shaft at Wheal Anna Maria from the 130 to the 141 fathom level, and the shaft has been repaired to this depth, where we hope to lay open more productive ground. At Watson's the water is in fork 253 feet below the 148 fathom level.

LEADHILLS.—W. H. Paull, November 3: Brown's vein. A stope over the 115 level 34 fathoms north of Jeffrey's shaft is set to four men at 40s. per fathom. Vein 4 feet wide and will yield 20 cwts. of lead ore per fathom. A stope over same level 150 fathoms north of Jeffrey's shaft set to four men at 35s. per fathom is worth 25 cwts. of ore per fathom. A drift over this level south of No. 1 stope is set to two men at 85s. per fathom, vein producing 20 cwts. of ore per fathom. A trial stope has been started over the 100 fathom level by four men about 90 fathoms north of Jeffrey's shaft on vein worth 20 cwts. of ore per fathom. The 85 fathom level is now extended 215 fathoms 5 feet 9 inches south of Wilson's shaft, and set to four men at 80s. per fathom. Vein 4 feet wide contains strong spar but unproductive. The 50 fathom level north of main rise is set to four men at 82s. 6d. per fathom. Vein 4 feet wide, at present yielding good stones of lead ore. A stope above this level north of said rise is set to four men at 35s. per fathom. Vein 4 feet wide, yielding 30 cwts. of ore per fathom. A stope below the 50 fathom level north of main rise is set to four men at 35s. per fathom on vein 4 feet wide, worth 25 cwts. of ore per fathom. Gripp's adit level is now extended 215 fathoms 2 feet 3 inches south of Wilson's shaft, and set to four men at 70s. per fathom. Vein here looks more promising, and contains a good mixture of spar, but no ore. Water is also issuing from the forebreast.—Rulk vein. A crosscut eastwards towards this vein at the 100 fathom level is driven 14 fathoms 4 feet, set to five men at 120s. per fathom. Ground continues much of the same character. A crosscut eastwards towards the same vein at the 70 fathom level is now driven 23 fathoms 5 feet, and set to six men at 120s. per fathom. No change in ground here. The 100 fathom level north of crosscut is driven 45 fathoms 4 feet 6 inches, and set at 65s. per fathom. Vein soft and unproductive. The same level south is set at 65s. per fathom. Vein harder than of late, and looking more kindly, showing strong spar and end wet. Gripp's adit has been extended south of crosscut on this vein 9 fathoms, and is set to four men at 55s. per fathom. Vein here of a promising character, composed chiefly of stone and spar, and ore may be met with any day. Gripp's adit level is also extended 21 fathoms 2 feet 6 inches north-west on Dobbs's vein, and reset to four men at 70s. per fathom. The vein in forebreast is 4 feet wide, composed of kindly stone, spar, and gossan, producing stones of lead ore at times. Surface works are being pushed ahead regularly. Severe frost this morning.

WEARDALE LEAD.—Report on Weardale Company's Mines for the week ending October 31:—Groverake. The old shaft foot has been cleaned out and preparations made for sinking.—Boltsburn. Little Limestone drift east strong plate and grey beds. Stopes in north flats from Watt's level worth 38, 36, 20, 12, and 16 cwts. per fathom. Stopes in south flats worth 20, 26, 26, 16, 14, 16, 12, and 12 cwts. per fathom. Vein stopes worth 16 and 14 cwts. per fathom.—Greenlaws. Rises drift vein is divided into two parts, and both poor for ore just now. Worth 12 cwts. per fathom. Stopes worth 12, 16, and 18 cwts. per fathom. Lowe's drift vein in forehead composed chiefly of spar mixed with ore, worth 10 cwts. per fathom. Stopes worth 12 and 14 cwts. per fathom.—Sedling. Driving 64 level east vein composed of spar and rider mixed with ore, worth 12 cwts. per fathom. 64 level east driving and slitting west vein, worth 15 cwts. per fathom.—Killhope. In Middlegrove vein east and west of English's rise in Nattrass Gill hazel vein strait, but quick, top part worth 80 cwts. per fathom. The old bouse is being got out. Ore raised for the week 44 tons, ore dressed for the week 40 tons, ore, slag, and fume smelted for the week 71 tons, producing 34 tons of pig lead.

WEST KITTY MINE.—St. Agnes, Cornwall, November 5: The winze sinking below the 72 fathom level west of Reynolds' shaft is worth for tin £7 per fathom. The 60 fathom level driving west of Reynolds' shaft the lode is 2½ feet wide. It contains a good deal of mundic, copper, and tin, and is worth for tin £7 per fathom. The 60 fathom level driving east of Thomas shaft is worth £8 per fathom. The rise in back of the 60 fathom level east of Thomas shaft, east of cross cut, is worth £12 per fathom. The winze in bottom of the 60 fathom level east of Thomas shaft is worth £9 per fathom. In driving west of Thomas shaft at the 60 fathom level the lode is small and unproductive. In driving east and west at the 68 fathom level north of Thomas shaft the lode is from 3 to 4 feet wide, yielding mundic, peach, and tin. It is worth for tin £14 per fathom. The stopes and tribute pitches are of the same value as reported at the meeting.—(Signed) Joel Hooper, John Williams.

MISCELLANEOUS.

PREMIER MINE.—Mr. W. J. Stanford reports under date September 28:—Incline shaft. We are still crosscutting into the hanging wall to prospect for the No. 2 line of reef. From the extreme face of the low level adit I am putting up a prospecting rise to McKenzies shoot.—Sunrise Mine. I am sending four men to continue driving for the gold which I know to be a short distance ahead, I have great hopes the Sunrise Mine will redeem the fortunes of the company at Macetown.

RANDT.—From the report for September: Total footage for month 364½ feet. Tonnage of payable ore in sight. Tonnage of No. 1 reef 17,538 tons. Tonnage of No. 2 reef, 22,581 tons. Total, 40,119 tons.

KLEINFONTEIN CENTRAL.—The Anglo-French Exploration (Limited) as London agents for the Kleinfontein Central Gold Mines (Limited) have received the following information from Johannesburg:—The surface works on the property of the Kleinfontein Central Gold Mines (Limited) are proceeding with all possible speed. The masons have put in foundations for No. 1 engine, and are now putting on the capstan for the bed. The beds for the boilers and smoke stack are completed, and the stack is now in course of erection. The excavations for the air compressor are finished. Directly the balance of the machinery is delivered erection of same will be pushed ahead with all possible speed. The following is a summary of the work done in the two shafts for September:—No. 1 shaft. 32 feet 6 inches of sinking has been done in this shaft, which is now down to a total depth of 220 feet. The bearers have been fixed and seven sets of timbers put in, also 30 feet of double cage road. One ventilation compartment for this shaft has been cased, and 30 feet of ladder way has been completed.—No. 2 shaft. Seven sets of timber have been completed in this shaft, and 60 feet of ladderway been fixed. 37 feet have been sunk this month, and the shaft is now down a total depth of 259 feet.

ALBION (Transvaal).—The following is the most recent information from the mine:—Albion main shaft. Cable received October 24: Have struck the lode Albion, width of the vein 12 inches, assays 6 dwts. per ton.—Cable received November 2: Albion, east level, 17 dwts. per ton.—West level. There is no improvements in talcose. There is a great improvement in 150 feet level.—Scorpion shaft. Extract from letter received October 25: The winze west of this shaft has a reef in it 2 feet 6 inches wide, and is payable. Yesterday I took samples (three) only one of which, however, has been assayed. It yielded 10 ounces 2 dwts., fine metal, 7 ounces 5 dwts. gold, but this was not a true sample of the entire width of the reef. The others show gold in the pan, but have not been assayed. Extract from letter received November 2. The winze west of this Scorpion shaft is still in good payable ground. The reef is still full 2 feet 6 inches wide and pans gold the whole width, but the middle of the reef is very rich in gold.

BROOKMAN BROTHERS' BOULDER.—Extract from letter of Mr. Geo. Brookman, dated October 1:—I have pleasure in informing you that I inspected your property in conjunction with Capt. Oates and Mr. Brown, underground manager. A fine body of stone has been struck in the main shaft, which shows gold freely, and there is every sign of it going down. The lode is the full width of the shaft when 200 feet is reached. Capt. Oates intends opening out to find out the width. Battery as cabled you we decided to erect forthwith 10 stamps with driving power for 30 similar in every respect to the Arrow Company. The condenser is working well, and a profit of £30 weekly is being made, besides supplying the men on the mine.—Extract from letter of Captain Oates, dated September 29: Since my last splendid stone has been broken through the bottom of the Gane shaft, averaging 2 ounces 4 dwts. to the ton.

CHIMES WEST.—Report to hand:—The erection of the permanent pumping and hauling machinery is nearly completed. This machinery, together with the dynamo for driving the machinery in the workshops and for lighting purposes, the air compressor plant and boilers, will be enclosed in one building near the main shaft. This building will contain 15 by 30 winding engines, 16 by 36 Corliss pumping engine, 9 inch Cornish pump, compressor drill plant (capable of driving 10 drills), three 80 horse power multitubular boilers. The contractors have made satisfactory progress with the erection of the headgear at the main incline shaft. The following is a resumé of development work done and assays taken for the month of September:—Number of feet driven, risen, and sunk: September. Main incline shaft 45 feet, total 283 feet, east drive 3rd level 27 feet, total 27 feet, west drive 3rd level 39 feet 6 inches, total 39 feet 6 inches, No. 2 incline shaft 63 feet, total 277 feet, west drive 2nd level 27 feet, total 267 feet, No. 1 vertical shaft, east winze below 2nd level 57 feet, total 94 feet, total footage for month 253 feet 6 inches.—Assays for September. No. 1 vertical east winze 2nd level 3 feet, 16 dwts. 6 grains, No. 1 vertical east winze 2nd level 3 feet, 16 dwt., No. 1 vertical east winze 2nd level 3 feet, 4 dwt. 21 grains, No. 1 vertical east winze 2nd level 2 feet, 1 ounce 4 dwt, 15 grains, No. 1 vertical east winze 2nd level 2 feet 6 inches, 10 dwts., No. 2 incline, west drive, second level 4 inches, 1 ounce 12 dwts. 6 grains.

WORCESTER EXPLORATION.—Advice has been received from the head office (Worcester, Cape Colony), that the company's whole 40 stamps started crushing on October 1 and are running satisfactorily. The result of last month's crushing yielded 2437 ounces of gold.

UNITED IVY REEF.—A cablegram states that last month's output from the mine was 545 ounces.

THE COROMANDEL GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold produced in September for £3100 18s. 2d.

THE MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £36,478 6s. 7d.

AUSTRALIAN AND NEW ZEALAND.

BROKEN HILL PROPRIETARY BLOCK 10.—Mine manager reports for week ending September 16:—Campbell's shaft, 615 feet level. Stopes yielding ore of usual grade, assays averaging 20 ounces silver, 20 per cent. lead, and 29 per cent. zinc.—Kelly's shaft, 615 feet level. Stopes in back of this level yielding ore assaying 18 ounces silver, 22 per cent. lead, and 28 per cent. zinc. —515 feet level. Stopes are producing ore assaying 20 ounces silver, 20 per cent. lead, and 28·5 per cent. zinc.—465 feet level. North stopes producing milling ore assaying 24 ounces silver, 21 per cent. lead, and 29 per cent. zinc. Those south 22 ounces silver, 30 per cent. lead, and 27 per cent. zinc.—415 feet level. Stopes here yielding ore for shipment assaying 31 ounces silver, 29 per cent. lead.—Surface tunnel. This has been continued 3 feet, total length of tunnel 583½ feet. Party engaged here have thrown up the job. Mullock pass completed to the 415 feet level.—Concentration. Plant treated 1347¼ tons crude ore, assaying 20·5 ounces silver, 2?·5 per cent. lead, 29 per cent. zinc, producing 315 tons concentrates, assaying 32·1 ounces silver, 66·1 per cent. lead, and 8·3 per cent. zinc. Ore despatched for week 1226 tons 4 cwts. gross, containing roughly 560 tons 11 cwts. lead, and 38,619 ounces silver.

CURTIN DAVIS PROPRIETARY.—Mine manager's report for the week ending September 19:—420 feet level. Driven 5 feet, total 240 feet. Lode shows 2 feet of ore on the hanging wall, and carries a good percentage of fahl ore, the country is rather tight for drilling and blasting. Winze below this level sunk 5 feet, total 30 feet, lode 2 feet 6 inches wide, but rather broken yet. The horse of mullock is giving place to ore, and the water has eased off during the past few fine days.—560 feet level. Driven 7 feet, total 242 feet. Lode formation, 4 feet wide, chiefly slate, with a vein of siderite and iron pyrites 3 inches wide, making against the footwall, and looking well for a schute of ore ahead. Winze below this level sunk 5 feet, total 27 feet. The lode carries 15 inches of yellow copper ore against the hanging wall, and is going down strong.—680 feet level. Driven 3 feet 6 inches, total 210 feet. Lode 2 feet wide, with 1 foot of good ore on the hanging wall carrying high grade fahl ore and copper pyrites.—810 feet level. Driven 5 feet, total 212 feet. Lode shows 1 foot wide of iron pyrites against the hanging wall, with a little of the usual rich fahl ore mixed through it. There is a considerable amount of iron pyrites mixed through the country in the face of the drive, which makes the progress slower than usual.—1000 feet level. Driven 4 feet, total 67 feet, have passed through the dense iron pyrites and quartz formation, and now have 3 feet width of lode formation principally slate and quartzite. This week I found that some of the iron pyrites and quartz carries high grade fahl ore, and an assay of which gave 721 ounces silver per ton and 33·2 per cent. of copper, thus proving that the rich silver and copper ores exists at lower levels, but I expect to have to go some distance yet before meeting with any permanent run of ore in this level. Extract from mine manager's letter, dated September 19: Mining. The lode in the end of the 420 feet level is looking very well and keeping strong, being fully 2 feet wide and looking as if it would increase in width as the drive advances. Since passing through the crosscourse the lode is bearing a little more to the east of south, but looks as if it would come back to the regular course. The face of the 420 feet level is rather close ground for speedy working, but very good for the lode to live in. I am pleased to inform you that the lode in the 1000 feet level is carrying some high-grade fahl ore. We found some of it in the cleavages of the iron pyrites this week, and obtained 721 ounces silver per ton, 33·2 per cent. of copper and 17 per cent. bismuth from the same sample. We have only found samples similar to those sent you, but it proves the ore to be going down in the lode and of a high grade. —Railway. Messrs. Black and McCormack inspected the line as far as the rails are laid last Tuesday, and were pleased with the work done. They have made a deviation on this side of the confidence saddle, and have thus lowered the line 38 feet in the Great Northern creek. I have carefully gone into the matter and inspected all the plans with Mr. Bernard, and the site as now surveyed is the most suitable for us, as it is close to the line of lode, and on the best piece of ground available.—Assays. 480 feet level, iron and arsenical pyrites, 3 ounces 11 dwts. 20 grains silver per ton, copper trace, gold trace. 80 feet level, carbonate of iron and pyrites 29 ounces 13 dwts. 19 grains silver per ton, copper 1·5 per cent., gold trace. 680 feet level, fines, 11 ounces 11 dwts. 22 grains silver per ton, 6 per cent. copper, gold trace. 840 feet level, fahl ore, 2575 ounces 8 dwt. 12 grains silver per ton, copper 18·7, bismuth 10·3 per cent. 1000 feet level, fahl ore, 721 ounces 18 dwts. 18 grains silver per ton, copper 33·2, bismuth 17·1 per cent.

LOMBARDY GOLD MINE.—Manager reports for week ended September 26: —Main shaft 150 feet level north drive extended 8 feet, total 133 feet. Lode which was disordered is coming together and shows four veins of quartz, the largest is 12 inches wide, all carrying gold. South drive extending 11 feet, total 111 feet. Quartz is pinched, but think it will soon open out again. 75 feet level north drive extended 10 feet, total 68 feet. Lode improving and carrying gold. South drive extended 12 feet 6 inches, total 66 feet 6 inches. Lode looking very well, 15 inches wide, and worth about 3 ounces per ton.

MOUNT ZEEHAN (Tasmania).—The manager reports for week ended September 23:—Silver Queen section, No. 8 lode, No. 3 level. Crosscut east extended 11 feet, total 52 feet 6 inches. Have cut hanging wall of lode, carrying quartz, iron pyrites, and patches of galena up to 4 inches wide.—No. 1 level north drive. Raised five bags galena, assaying 66 per cent. lead and 83 ounces of silver. Concentrator has been running on second-class ore from Zeehan Montana Company.

NEW ZEALAND TALISMAN.—The Auckland agents of the company report: Between the floors of No. 1 and No. 4 adits there still remain for extraction some 6500 tons of ore, of which at least 5000 tons consist of payable mineral, the bulk of which will probably yield £4 10s. to £5 per ton. They also write: From the report of the mine dated September 9 it appears that assays taken at that date, from the bottom of the winze below No. 4 level (where the width of the reef is 3 feet) yielded £7 12s. 4d. and £7 19s. 9d. respectively.

SOUTH MOUNT LYELL.—The following report has been received: Shaft section 172-91: The shaft has been sunk a further depth of 4 feet, or a total of 17 feet from the surface. The floor is in a blue schist, well mineralised with iron and copper pyrites and splashes of galena. Indications at present are extremely favourable, and in my opinion point conclusively to our being on the mineral line. Water, unfortunately, is making from below, but I trust it will not increase to any appreciable extent.—Centre tunnel section 112 91. Face advanced a further distance of 13 feet for the week, or a total of 78 feet from the opening set. No change of any sort to report. The strata is running with the drive, and timber has still to be kept going.—Main tunnel section 4-92. The face of this tunnel has been advanced a further distance of 4 feet for the week, or a total of 490 feet from the opening set. Country passed through a tough hard conglomerate with water coming through the cleavages. There has been some time lost in this tunnel through sickness; men have been working drenched on the shift.

BASS AND FLINDERS.—Mine manager reports as follows:—I have had to discontinue work in the main shaft, finding it impossible to cope with the water. When I discontinued work on main shaft I started men prospecting and opened out near our eastern boundary in 12 acre block after open cutting for 35 feet a lode formation, consisting of quartz, &c., at present 15 feet 10 inches in width, carrying gold, and prospecting up to 1½ ounce to the ton. I have also opened, by an open cut on the 24 acre block, about 2 chains from last mentioned lode, a similar formation 8 feet 2 inches wide, prospecting up to 4 ounces to the ton, but at present the development is not sufficient to speak positively of the value of these lodes, but judging from present appearances, and the value of similar lodes in our immediate vicinity, I am confident that in my next I will have to report a considerable improvement in the value of the property. I have also put in a level on the 12 acre block 53 feet to cut a large reef running through the hill. The reef at present is about 4 feet 2 inches, and carries fair gold. The quality of stone is improving, and I expect a marked improvement in the next 20 feet. The condenser is proving a good investment, it is working well, and water I have to spare sells readily. I have made a rough plan showing approximately reef, lodes, and workings, which our engineer is forwarding you. In addition to lodes and reefs shown on plan there are a number of other outcrops on the property, but as they have not been prospected, I have not included them. In conclusion I beg to say that work is progressing favourably, and I have strong hopes of a very favourable report next mail.

BLAGROVE'S FREEHOLD.—The acting manager reports under date September 19:—We beg to hand you the following report for the four weeks ending as above:—Engine shaft. Preparatory to further sinking we have cut hitches and put in bearers at the 200 feet level. A 9 inch drawing lift has been fixed with all necessary stays, &c. We have also put a new set-off to the main rod, and put bucket lift to work. A winch has been fixed in chamber with all necessary gear, in order to lower column when required. This will be much more expeditiously carried out than by the ordinary screw method. Up to date the shaft has been sunk 9 feet, being an addition of 3 feet since last cable. The country rock is very hard, but in other respects of a promising nature. We propose continuing the shaft to the 300 feet level, then crosscut east and west, as in the latter direction we anticipate intersecting Ring's big reef.—Main crosscut east. This has been extended 58 feet by four men. During the month we started to drive north on the line of reef, and have accomplished a distance of 41 feet by four men. The reef at this point is much disturbed in appearance but carrying well-defined walls. Its composition is pug mixed with country rock and silicate of iron and iron pyrites, with a nice seam of quartz on the footwall. By washing and pounding colours of gold are visible. Driving south on same reef from main crosscut we have accomplished 20 feet. The reef is about 9 inches thick, well defined and highly mineralised, and at times showing specks of free gold in the quartz.—Crosscut north. Operations in this direction have been suspended in order to push on with the developments above referred to.—Surface work. A changing room is being erected for the men, and the smiths and carpenters have been engaged in doing the necessary work on the mine. Machinery and pitwork working well.

IRENE (Hunaki).—The acting manager, under date of October 1, reports as follows:—By this mail I post you a plan of the property. The drive on No. 1 reef has been extended 12 feet south. The lode is 3 feet wide, and worth about £3 per ton. North on this lode a further distance of 10 feet has been driven, The lode in this end is worth about £2 10s. per ton; it is 4 feet wide. The whole of this lode north of flat sheet is intact to the surface, giving backs of 189 feet. The drive on No. 3 reef has been extended 21 feet south. The lode is about 18 inches thick, and is worth about £3 per ton. The low level crosscut has been extended 25 feet; it is traversing a very nice channel of country. All quartz I am storing in a large hopper above the battery pending instructions re treatment.

HAURAKI.—The manager reports under date of September 22: I beg to submit the following report for the four weeks ending 19th inst.:—300 feet level. We have crosscutted easterly from our shaft a distance of 38 feet, cutting through the No. 2 reef. I should mention at this point the reef is disordered, being much split up. The reef at this point in the upper levels was of the same character. We have to drive about 60 feet north-westerly to come on to the line of our rich shoot of gold, in which direction we have to-day started driving with a full pare of men.—No. 1 winze below 220 feet level. During the month we resumed sinking this winze and sunk 12 feet, total depth 41 feet. The reef averaged about 3 inches with no gold showing. We have a change of country that came in from the hanging wall side of the reef, causing a disturbed effect upon our reef. It is to be hoped we shall get through this and come on a change for the better.—No 2 winze below 220, No. 2 lode. This winze was also resumed and sunk 11 feet, total depth 38 feet. The reef here averaged 12 inches wide and has produced fair grade ore. We have a better channel of country in this winze, which I trust may deepen to preserve our reef. The water is very troublesome in these winzes, and we are compelled to stop sinking until the 300 drain them. By cutting through our reef in the 300 should have drained these

winzes, but evidently there must be floors of ground that keep the water up.—220 feet level cross reef. We have driven south on this reef 81 feet, total distance 71 feet. The vein is small, averaging 4 inches. We continue to meet fair grade ore on this reef.—Stopes on No. 2 reef above 220 feet level. These stopes during the month have produced rich grade ore. The reef will average 18 inches. These stopes are north of the No. 1 winze, below the 160. The stopes south of this winze have produced low grade ores.—Stopes on No. 2 reef north, above 160 feet level. The reef in these stopes averaged 10 inches, and is producing low grade ore.—Stopes on No. 2 reef south, above 160. These stopes during the month have produced low grade ore.—160 Iona crosscut. This crosscut is extended to the Kathleen boundary, and the Kathleen men are now driving a crosscut for that company into their own ground.—160 feet Castle Rock reef. We have driven on this reef, north-westerly, 41 feet, the reef averaging 1 feet. The character of the quartz is very congenial for gold, and in following the development of this reef, I have very great hopes of making discoveries of gold. There is a splendid feature in relation to this reef, which is that it runs parallel to the No. 2 Hauraki reef, while the dip, however, is in the opposite direction and towards our engine shaft.—160 feet level, New Year's reef. The reef in this level is very much disordered. We have driven on two different branches expecting to discover shoots of gold operated upon above, and may meet an improvement any day.—Stoping on New Year's reef, above 160. These stopes have produced a large quantity of good grade ore during the month.—Cross reef, above 160 feet level. Stoping on this reef, which has averaged 6 inches, has turned out during the past month high grade ore.—Iona reef, No. 2. At a point where our rise from the 160 feet level and the winze below the 100 feet were communicated the reef became split into branches and very much disordered. The quartz, however, carries fair grade ore We are engaged at present driving an intermediate level south from the bottom of the winze, where the reef is becoming defined and giving fair results.—Cross reef above the 100 feet level. The reef in these stopes averaged 6 inches. Very little work was done in these stopes, as we have driven on a branch vein 17 feet, which is in the direction of Ross's old workings, and has given us good crushing payable ore. We are rising on this reef at present, and expect to open up fair stations of payable ground.—Iona shaft. We have repaired this shaft from the surface to the 160 feet level, and are now engaged putting in the runners to work our cages. The engine house, engine, boilers, intermediate gear, &c., are all in position.—Battery. The battery has been going steady throughout the month. We find, however, that we must soon change our boxes, which will necessitate stopping our stamps for eight or nine days to fix new ones, and at the same time adjust the foundations, bed logs, bolts, &c. I am ordering these from the foundry to-day, and by the first opportunity as soon as they are delivered we propose to fix this matter up.—Returns. We stamped for the month 412 tons of quartz, and treated 802 lbs. of picked ore, which realised £6301 14s. 7d.,

KATHLEEN.—The manager reports under date of September 23: I beg to hand you my monthly report of this property:—Main shaft. Our main shaft is now down to a depth of about 195 feet. We have just sunk through a layer of carboniferous matter. In the present bottom we are again sinking through a splendid channel of andesite rock carrying an abundance of iron pyrites. The water has somewhat increased in the shaft since my last. So far, however, we are able to cope with it all, and barring any unforeseen circumstances we hope to reach and open out at the 200 feet level. We shall immediately drive at that depth to cut the North Hauraki Company's reef, from which I hear during the past month they have been getting rich gold.—Crosscut from Hauraki boundary. We find on checking the measurement that the Hauraki Company had only reached their boundary and enabled this company to continue the crosscut on Monday last. The channel of rock here is very favourable. We have only two men engaged at this work. As soon as we have completed sinking and cut our chamber and started crosscutting, we propose to place more men in this crosscut.—Machinery. The contractors have built a substantial bobbading for the main bob to work our main rods in the shaft. The loding for the traveller wheels, also for the winding engines and pumping engines, are very nearly completed. One boiler is erected and built in its place. The second boiler will be delivered and likewise built in in the course of a few days. Our machinery will not be erected and at work by the contract time, owing to the engines not being delivered in time. The whole of our machinery will be a very substantial and permanent plant, with which we can go on sinking uninterruptedly in the winter as well as summer season. The temporary plant is doing all that is required, and I am hoping to carry on without interruption until our new plant replace it.—Conclusion. We have made a great success in keeping up the surface water, the shaft being perfectly dry down to the bed rock. Our accumulation of water has been in sinking through the rock. With good speed we shall soon be down to our required depth. After sinking a few feet below the present bottom we shall cut in the end of the shaft as we go down and fix our chamber timber at the same time while engaged in sinking to save time. Everything throughout the mine is being carried on substantially with the view of opening up a permanent and valuable property.

KAPANGA.—Acting manager's report dated September 19. I beg to hand you the following report for the four weeks ending as above.—Larnach's engine shaft. During the month it has been sunk 19 feet, making a total distance of 104.7 feet. The country rock is decomposed andesite, first-class, and highly mineralised. About 90 feet below the 90 feet level we intersected a leader about 9 inches thick. The quartz is very compact, heavily charged with iron pyrites and arsenic, carrying a well defined hanging wall. The strike is about south-east and north-west, dipping to the east. So far, no gold is seen, but the reef has every appearance of carrying heavy deposits of the precious metal. Hitches have been cut at the 1000 feet level, and bearers put in position with the necessary shaft pieces, also opening out are placed in position. The well is finished and the shaft collared, while we have commenced to cut the chamber. One cage road is complete from the surface to the bottom, and the second one is down to the 900 feet chamber. We shall complete this road when the 1000 feet chamber is cut. However, we have commenced to hoist from the bottom with the new engine, which will save a considerable amount of time, as the cages will travel 1040 feet per minute. The shaft is timbered, and centres put in, with the necessary lining, ladders, and sollars. Two men are still engaged doing the necessary repairs to the engine shaft, which we hope to complete in a fortnight. Then everything will be in first class order.—Rising above 800 crosscut on Kapanga reef. The rise has only been extended 12 feet, the progress being slow owing to the hard country, and at the same time having a large flow of water to contend with. However, this is looked upon as a very favourable indication. Although the country rock is hard it is congenial. The reef is about 2 feet thick, composed of quartz and calcite, mixed with country rock, and carrying heavy deposits of mineral, but so far nothing of importance has been intersected. This rise will be pushed on as fast as possible, in order to get better ventilation, and at the same time it will prove whether it is the Kapanga reef or not.—Driving north above the 800 feet level on Kapanga reef. Drive has been extended 29 feet. The reef is 5 inches thick, composed of solid quartz of a very promising character. The hanging wall is well defined, although the footwall is somewhat of a broken character. The country rock has considerably improved during the drivage, and the prospects are very encouraging. Our intention is to push this drive to the north boundary, in order to develop the untried ground that I have mentioned in former reports.—Stoping back of above mentioned drive. The stope measured 66 feet by 6 feet. The reef is 17 inches thick, carrying a well defined hanging wall, and showing strong blotches of gold when broken down. This leads me to suppose that there are some large deposits of the precious metal in the vicinity, the country rock being all that can be desired for gold bearing.—Driving south on the Kapanga reef at 420. The drive has been extended 17 feet. The country rock is very hard, and letting out water freely. The reef is 2 feet thick, and at present has a very broken appearance; in fact, it is split up into small stringers mixed with country rock. Judging from the class of rock, and the disturbed appearance in the upper levels, we shall have to extend the drive about 100 feet before reaching the runs of gold, according to the underlie in the upper levels. We look on this as a very important point, seeing very little work has been done south at the 420 feet level.—Rising above little Intermediate on Kapanga reef. This rise has been extended 3 feet. The reef is 12 inches thick, carrying low grade ore. This work has been suspended, being very close to the 300 feet level, where there is a large stream of water constantly flowing.—Stoping south of rise. The stope measured 24 by 6 feet. The reef is 16 inches thick, carrying only low grade ore. Stoping has been suspended, as it is near the bottom of the 300 main drive.—Rising above the back of 420 on Scotty's reef. The rise measured 26 feet. During the time of rising, the reef has considerably improved, showing strong blotches of gold at intervals, and the country rock is very congenial for gold. We shall put this drive through to the intermediate proper, in order to get better ventilation, as the air is very light in the stopes. The slide referred to in previous reports has very much disturbed the reef; however, stoping will be carried on both north and south of the rise, and in all probability this will prove remunerative.—Stoping north of last mentioned rise. The leading stope measured 23 by 9 feet, second stope 46 by 6 feet. The reef is 7 feet thick carrying ore of low grade. We have cut through the slide, and the reef is showing a little gold. At present the appearances of the reef is everything that can be desired as far as indications go. There is a band of arsenic and pyrites about 2½ inches thick. This will drop into the reef, where I am looking forward to a nice pocket of ore. If this turn out other than expected I shall be very much disappointed, as I have seen similar bands of mineral drop into the reef, where we have found rich ore, and I am hoping the above will not prove the exception.—Rising on Scotty's hanging wall above intermediate. The rise has been extended 15 feet. The country rock is very hard, but highly mineralised. The reef is 8 inches thick, composed of very dark pug and friable quartz, showing strong blotches of gold. In fact, there is a decided improvement in this point of operation, and I hope ere long to be in a position to show good results.—Corby section. Corby shaft has been sunk 6 feet. The country rock is very hard, but what is termed the kindly sandstone. The sinking was suspended, owing to the heavy influx of water; but we hope to resume it next week, seeing the rainy season is over. No. 1 drive has been extended 58 feet. During the drivage the reef improved very much, and we have a splendid class of country in the forebreast. The reef is about 10 inches thick, very compact, composed of quartz and pug, mixed with calsite and arsenic. There are favourable indications, but so far nothing of importance has been encountered. However, we are pushing this drive on as fast as possible, in order to crosscut east to intersect Scotty's reef, when in all probability we shall obtain ore of high grade. I am fully persuaded that these developments will prove satisfactory to the company.—General remarks. In conclusion, I would state that there is every prospect of the company's mines coming to a successful issue, seeing that the engine shaft has reached a depth of 1007 feet, and good progress is being made with the chamber at the bottom. The new winding engine has started work, and is capable of winding 1000 feet per minute. We are now in a position to systematically develop the mine, which will be done with all possible speed. All machinery and pitwork working smoothly.

KATHLEEN CROWN.—The manager reports under date September 19: I beg to hand you the report for the four weeks ending as above:—Engine shaft 12 men have sunk it 17 feet during the month. The country rock is without any material change since my last report, being hard andesite. It is letting out water freely, consequently progress is not so fast as we could wish.—Argall's reef. The winze is now down 24 feet, and the reef is about 9 inches thick between two walls, a little gold being seen at every breaking down. The reef is encased in a good class of sandstone country, intermixed with small quartz veins well charged with iron pyrites, most favourable for the production of gold. The drive has been extended 15 feet from the crosscut, in order to intersect Argall reef at a lower level, underneath where the above-mentioned winze should hole through to this level. Here we hope to strike a good run of gold.—No. 2 reef. This drive is now in at a distance of 56 feet, 19 feet of which have been done during the past month by one man. The reef had a very broken appearance, but is now making again into good solid stone about 16 inches thick. A few pieces of good looking quartz showed colours of gold. The country formation is decomposed andesite, and very easily worked. We trust to have something better to report shortly.—Surface. The office and store room are now completed. Smiths are engaged getting ready necessary ironwork for poppet heads, and the carpenters are prepairing timber for the shaft, besides other necessary work on the mine.

KOMATA QUEEN.—The acting manager reports under date October 1 as under:—I visited your mine on the 15th inst., and went carefully over the work carried out by Mr. Benney since my last visit. This work includes driving a total distance of 29 feet on Argall's lode and close timbering the same, requiring nine sets with close stabbing on account of the heavy nature of the ground. On Lavington's lode 23 feet have been driven north through a hard solid body of mixed quartz and mullock. This drive stands well without timber so far as we have gone. The prospects obtained from both these lodes have been very small, but owing to the broken nature of the ground I did not anticipate getting payable stone at present. In Argall's lode it is questionable whether we are on the true lode of a parallel vein. This will be decided by crosscutting when we have advanced further into the hill. Lavington's lode is of the same character as were found in the Komata Reefs Gold Mining Company, it being a very fine body of ore, rather mullocky, with strong veins of quartz irregularly traversing it. On the north-east the long trench has been extended for a distance of 332 feet, in which two leaders have been cut yielding good-looking quartz. The sawyers have cut 2610 feet of timber of various kinds for truck rails, house, and mine. The hut for the men is nearly completed, its dimensions being 23 by 12 feet. The contractors for the pack track from mine to county road are progressing slowly, the weather having been rather inclement and wet lately. It is expected, however, that this will be completed early next month. With the completion of our truck roads in the low level drives we shall be enabled to push on much quicker, this work having been delayed awaiting the cutting of the rails by the sawyers.

KOMATA REEFS.—Acting manager reports under date of October 1 as follows: Roads. After making a thorough examination of the mine on the 15th inst. I rode down the Komata road to examine its condition in company with Mr. Benney, who proceeded to visit the Northerton road to the Thames River with a view to determine whether the rails and material for the tram road should be brought from this direction or via Paeroa, the latter being our ultimate decision. On the way down the Komata road I found a good many places which were only fit for horse traffic, but the road generally was improving with the fine weather then being experienced. To make this road fit to carry dray traffic a good deal requires to be done, and this will be delayed by the wet spring we are now experiencing. I, therefore, deemed it best to ride on to Paeroa and see the individual members of the council to whom I am well known.—Tramways. Anxious as I am to push these foward, I am dependent on the weather to enable the Komata road to be in a fit state for traffic, therefore, a little longer delay is not so material.—Battery. This is now completed, and I shall take steps for its erection simultaneously with the tram lines formation.—Assay plant. This has now been forwarded to the mine, and I hope in a week or two to have the assayer in full work.—Mine. During the past month the bottom has been taken up in the drive on Argall's reef north for a distance of 34 feet, averaging 3 feet high, the total distance being 89 feet. Timber has been put in all along in this place as required. The prospects have been very fair, especially on the footwall side. The face now being up to the slide, a small crosscut is being put in on the course to test the width of the lode in this place also the prospects. It is in 4 feet, showing good general ore. The main crosscut has been extended 23 feet 6 inches. This is now in a total distance of 458 feet. The ground driven through has been pretty hard till last week, when a small vein of quartz was struck, and the country is now better driving. No gold was found on prospecting this vein. The low level has been extended 24 feet, making a total length of 63 feet. The country here is not very changeable, being hard rock intersected by soft seams. This place has needed timber as the roof is bad. The cutting of the timber on the mine has been put on contract. The sawyers have turned out 2900 feet of rimu timber. The final payment has been made for the water race contract and everything settled up.

MAORILAND.—The mine manager reports as under—Kuaotunu, September 25:—Acting under instructions received I have resumed operations with three men, and work in the form of driving is being done on three different reefs, one drive being started on the Seaward portion of the mine close to the Diadem Gold Mining Company's boundary on a very promising looking reef, averaging about 2 feet 6 inches in thickness and encased in a splendid class of sandstone. About 300 feet of backs will be available on this reef, and I feel assured as the drive continues payable ore will be met with. Another drive has been started higher up the hill about 40 feet west on a reef 2 feet thick of a very kindly looking quartz which gives a fair prospect of fine gold. I may mention that within the last two months a good road has been formed around this section of the property by the County, and in cutting down to the solid rock several very promising-looking reefs and leaders were met with, which it is my intention to prospect with the pestal and mortar within the next few days. I have also one man employed in the low level, Black Jack section, who has been engaged for the past week repairing the drive and laying rails for the truck, and as soon as completed I intend driving on the reef that was previously intersected, and which is fully 3 feet in thickness.—Thomas Kneebone, manager *pro tem.*

MENZIES ALPHA LEASES.—The following are extracts from the mine manager's report, dated September 24:—A shaft. Have driven crosscut west from end of No. 1 south level a further distance of 6 feet in section 73; total, 19 feet. Have passed through small gold bearing leaders, but nothing of much value yet. Have sunk the winze from this level a further depth of 14 feet in section 79; total depth, 103 feet. The reef has been rather broken up for the last few feet, but the stone coming up is still of excellent quality, showing gold freely.—D shaft. Have sunk on the reef a depth of 19 feet in section 75. Reef averages 1 foot, showing very good gold. [Office note. A cable, dated October 12, gives this lode 2 feet 6 inches wide, worth 4¼ ounces per ton.]—B shaft. Have sunk the underlie shaft a further depth of 13 feet in section 66; total, 67 feet. Have broken through to No. 1 north level. Reef averages 10 inches, very good stone. Contractors are making good progress with dam, and it will soon be completed.

NEW HAURAKI GOLD PROPERTIES.—The manager reports as under, dated September 23:—I beg to hand you the following report for the month ending the 19th inst.: I have this day thoroughly inspected the whole of the company's properties. On the 10th inst. a communication was effected between the South Tokatea rise and winze from the deep level, total distance risen 123 feet. We have to-day placed four men to open out an intermediate level from the bottom of the winze about 60 feet below the South Tokatea workings. There is a mystery about this winze—that we did not encounter the iron bar dipping into it, driven through in the South Tokatea crosscut. It must have died out before it reached the reef. We propose now after opening northward in the intermediate to put up a rise to discover its whereabouts; it is more likely that the said bar will strike the reef northwards as the rock is more favourable in this direction and the reef larger.—Deep level. Quartz formation 9 feet wide. Four men have driven north-west at a point 278 feet from the mouth of the deep level crosscut. The quartz formation is much oxidised with iron, and the quartz is very porous. We have driven 14 feet. We cannot get any assays so far as driven on of any value, but hope by further developments to meet an improvement.—Deep level east and west reef. This is 3 feet wide, all strong solid quartz, highly charged with iron pyrites. Total distance driven here is 113 feet, being 13 feet for the month by two men. The country rock is a pale blue andesite.—Nichols' reef, deep level crosscut. We have been extending this crosscut during the past week, and just cut into a body of quartz of a very porous nature letting out water freely. Seeing this water we look upon the same as a good indication of a stronger reef ahead.—Queen reef crosscut. This crosscut is now commenciated to the South Tokatea level, affording good ventilation. A a point several feet behind the communication from the Queen reef crosscut we propose to open out on a new reef, cut through by driving northerly. The quartz and silica in the reef is very congenial for gold, and the character of rock all that can be desired. This reef is probably success No. 1.—Prospecting west crosscut. Four men have extended this crosscut through a hard, pale blue andesite rock 21 feet, total distance 177 feet. We have 600 feet in this direction to cut our east and west reef, being operated upon from the other side of the hill. At the same time, we expect to cut other reefs intermediate between the forebreast and the east and west reef. At a point considerably east of our deep level drivage on the east and west reef, we propose to drive a crosscut to prove the same reef. Two men have been started on the development to-day. We are surveying still easterly of this point with the view of attacking the same lode at another point. If we can succeed in discovering any section of this reef payable, this reef alone with such large bodies of quartz would soon recoup the company for all their outlay.—Conclusion. Our bushmen have cut over 100 tons of firewood for the battery, 41 legs and 20 caps. We are doing a large amount of development work throughout the property, and working very large bodies of quartz, and directly we succeed in discovering a payable reef it would be a permanent feature, and totally different to small fluctuating leaders. I hope we may soon be able to report some improvement on the property.

PREECE'S POINT PROPRIETARY (Hauraki).—Acting manager's report dated September 20: We beg to hand you the following report for the four weeks ending September 19:—Engine shaft. This has been cleared of water, the guides taken down to the bottom, and the necessary ladder and sollars put in where required. The shaft has suffered no ill effects from its late submergence, and compares very favourably with any other engine shaft on the field. The removing of the 100 feet of accumulated water was accomplished in six hours, the engine however not being worked at its maximum speed. At the present time one hour's pumping in the 24 is quite sufficient to keep the water down. Having decided to open out at once, a start was made to cut a chamber at what is roughly 150 feet from the surface. Fair progress is being made with this, and the next 10 days should see it finished. The chamber is 10 feet high, and of the same width as the shaft—viz., 7 feet. It is secured with heavy timbers, and when completed will give ample room for all requirements present or future.—Drainage drive. This has been carried on nominally by two men, but the necessities of the surface work have often caused them to be called away. However, 28 feet have been driven, leaving 75 feet to complete the work.—Surface work. Work in this direction has been carried on with all possible speed, our efforts being directed to the completion of this work, so as to enable us to devote all our attention to the developments underground. On August 27 the machinery was started by the manager in the presence of a representative gathering of the local people, and everything worked smoothly without a hitch. The opinion was freely expressed that the plant was the best of its size in this district. The poppet heads have been put into position, and the next week will see the work about them completed. The pulleys are 10 feet in diameter, in keeping with the splendid and solid proportions of the structure. All the carpenters have been employed in this direction, with the result that very good progress has been made. The smith and his assistants have been busily engaged in meeting the requirements for iron work for the poppet heads, the cages, and other work in hand. At the present time we are winding in the shaft with a bucket, but the next few days will see the cages at work. These last are of roomy and strong proportions, and when in use should give every satisfaction. The small donkey engine used to feed the boilers, works very satisfactorily, and requires little attention. The weather during the past month has been very favourable for surface work, and full advantage has been taken of this, satisfactory progress is all directions being the result.

SUCCESS.—The manager reports as under, dated September 23:—I beg to hand you the following report for the month ending 19th inst.: James' reef west deep level. The character of the lode in this direction during the past week was very much improved, showing a fair size reef averaging 15 inches. An assay produced 7 dwts. to the ton. In the present forebreast we have just cut into a slide which has disordered the lode. We have sunk three winzes before cept we have 10 feet more to drive to No. 3 before we rise, we have not crossed them. I attribute this to the hard diorite rock and floors passing through the same horizontally. The future of this level now depends on the character of the rock west of the slide referred to, as also east of the slide in the same level in the opposite direction. This change of rock which could not be foreseen in James' level coming in below the said level and passing through our deep level has quite changed our prospects of success. It is a most extraordinary thing to be dipping under a moderate rock and iron bars had in the upper levels. We are pushing on westerly through the slide in the hopes of again entering a productive channel. We have driven for the month westerly 61 feet, total distance from crosscut is now 144 feet. In another 10 feet of drivage we shall start to rise for ventilation and communicating to No. 3 winze.—James' level east. We have driven in this direction from crosscut 26 feet. The hard diorite rock on the south-eastern side of the slide has pinched the reef up to a mere seam of quartz. In fact in the class rock we have no reef could possibly exist of any value. We shall push ahead in the hopes of meeting a more favourable and congenial belt favourable for gold—James's west stope. Here we are rising in new ground west of the large iron floor. As soon as we are high enough over James's old workings, which had caved in through incompetent timbering, we shall immediately open out an intermediate level to prove its value.—Stoping above James's intermediate level. In these stopes we are obtaining low grade ore.—James's east end. At a point 245 feet one of the Success leaders was intersected running 10 degrees west of north, averaging 6 inches wide. The crosscut 21 feet were driven by four men for the month. The reef carries a well-defined wall, but the rock encasing the reef is too hard to produce gold of any value.—James's No. 3 winze. This winze was suspended owing to bad air, the depth attained being 60 feet. The reef is disordered in the bottom with the footwall irregular.—Success Intermediate level. The reef in this level was driven on 23 feet by two men. The country rock becomes very hard. It is now suspended and the men placed to resume sinking the winze below No. 1 level on Success reef.—Success No. 1 reef. Since my last we have started driving on this reef, the bearing of which is north-west 2.0. The reef in the end to-day is 12 inches wide. The quartz is very deeply oxidised in iron, while the country rock for 3 feet wide by the side of the vein is a complete mass of iron pyrites. In this direction with these indications we ought to discover large bodies of gold. After extending the level for some distance, if nothing is met with in driving, we propose to sink a winze below the level, as this mass of iron pyrites is a first-class indication of rich bodies of ore below. Success No. 2 reef. The reef in the stopes here is producing fair grade ore.—Battery. The battery will be in readiness to start stamping in about nine or ten days. We have about 50 tons of quartz of low quality awaiting a trial of the aerial tramway and for initiating stamping. We have been unable to get any coals up for our engine, but have been accumulating wood from the bush for fuel. The county are engaged repairing the road, and by such time as we shall have exhausted our firewood, I hope with this season of the year and finer weather to be able to get our coals up to enable us to carry on stamping operations. For about two weeks after starting the stamps we shall be treating very low grade ores, as is usual to get our battery and machinery in a condition to treat our best ore.—Conclusion. The mines are being fully developed throughout, and with our present line of developments we should meet improvement as we proceed.

TARARU CREEK.—The acting manager reports under date October 1 as follows:—The past four weeks has enabled us to arrive at a full knowledge of the difficulties in connection with recovering the bullion from your ores, and I think we have practically overcome them. The mine has also improved and given us a better idea of the large quantity of ore awaiting the battery. The particulars of work done in the mine are as follows:—During the month stoping above the low and intermediate levels on the California reef has been carried on as usual. The lode averages 4 feet in width, is heavily mineralised, and of fair grade. On the Day Dawn reef work has been confined to stoping above the low and intermediate levels. The lode at this point averages 2 feet in thickness, and gold is seen in the ore when breaking down. The western face of the City of Dunedin reef has advanced 21 feet, making the total distance driven from the crosscut 681 feet. The lode in the face is 6 feet in width, showing strong bands of rodonite, and in the last few feet driven good assays have been obtained. A rise has been started from this level to connect with the level 170 feet above; this will open up a very large block for stoping, and will also ventilate this portion of the mine. The eastern face on the same reef has been extended 32 feet, making the total distance driven in this direction 227 feet. The lode in this face is 4 feet in width, but at present is of a low grade. Good headway has been made with the drives on the reef east of the crosscut in the battery level, the distance driven for the month being 35 feet, making the total distance driven 293 feet. The lode is 4 feet in width, and although no gold has been seen, the stone has a very kindly appearance. Battery level. We have advanced this and the City of Dunedin low level 97 feet nearer to each other during the month. The progress of these drives are the most important works in hand, the difficulties and delays in getting our quarts to the mill being constant and harrassing as well as costly. I have some hope of borrowing a rock drill to expedite the work, as I am determined if possible to make through communication before next winter, and having over 1000 feet to go it will require great effort to succeed.—Cartage contract. This has just been relet at 2s. 3d. per cubic yard from any of the company's hoppers—Norfolk, City of Dunedin, Day Dawn—the late contractor, Mr. J. Rickits being the successful tenderer.—Roads. Since last mail we have had heavy and fairly constant rains making the ground very soft, and causing considerable difficulty at times in keeping the battery supplied, the bye-lays to the drays being very numerous.—Battery. As advised, we have kept 10 stamps going for a large portion of the time. Owing to breakages on the road, we have had frequent delays and stamps hung up in consequence. Finding that a good deal of gold was not being saved in consequence of coarse crushing, I have adopted a wire mesh screen having 40 holes to a lineal inch; the result in the battery has shown a marked improvement, but the amount of ore put through has been reduced in consequence. One other factor influencing our output is the extremely hard nature of the quartz now being won from the City of Dunedin level. We have 10 more stamps lying idle, but our power is not sufficient from our water wheel to run the 40 stamps and carry on the necessary pumping and lifting for the cyanide works, and at the same time run the fan which has to be kept going to drive air into the base of the battery level.—Cyanide plant. During the past six weeks 360 tons of tailings have been treated by cyanide. The average value before treatment was 31s. per ton, the average extraction being 70 per cent. The extraction has been reduced owing to four of the vats coming out below 60 per cent. which was due to insufficient leaching to rid the tailings of the acids present and want of sufficient time for percolation. This was in consequence of my urging the operators to increase their output to the utmost. We have now decided to pass the tailings through the boxes with the ore thus getting them thoroughly free from acid, and of a uniform fine grade. This will also enable us to put through double the quantity with our present tank capacity. The clean up has proved satisfactory to me. The assay extraction showed £280, of which £231 has been recovered; the slag still contains £5, and we estimate £44 is retained on the sines. The copper present in the ore has rendered our bullion rather base, but the value is present, as shown by the enclosed bank slip. The cost per ton for cyanide is 4s. 6d., and by treating the tailings as I suggest, we shall be free from the acid and work with a smaller consumption.—Clean up. The cleaning up and retorting was completed on the 25th ult., when 407 tons of ore crushed yielded 178 ounces of bullion, valued at 67s. per ounce, and from 220 tons treated by cyanide we recovered 592 ounces 12 dwts. of bullion, valued at 7s. 1d., giving a total value of £320 17s. 10d. Finance. The small balance to credit and the bullion now in hand will enable me to meet the wages and bills now due. I intend, if our success continues, to clear up every four weeks as advised in my last.

WESTRALIAN PREMIER.—I visited your mine in June and again in September last, in company with Professor Nicholas, your superintending mining engineer, and I found that about 1230 to 1330 feet of sinking and driving have been done at a very moderate expenditure. No money has evidently been expended on anything beyond actual necessities. The workings have exposed a large body of quartz, the reef at some places being about 30 feet thick, but unfortunately the great bulk of it so far is very poor. At the first visit in June the only good-looking stone I saw was exposed in a trench at the surface, near the top of No. 5 shaft. This good stone was about 30 feet long, but seemed to give out at each end, and also at a few feet in depth. On the second visit, however, the 50 feet level from No. 3 shaft had been extended about 25 feet further south than on the former visit, and had entered some very nice-looking stone, which will probably be found to be the same make of stone as exposed in the trench at No. 5 shaft, pitching to the north as it descends. Further developments will prove whether it is so or not. The sketch shows the relative position of the No. 5 shaft and the south end of the 50 feet level referred to. While there are considerable bodies of payable ore exposed by the present workings, there is sufficient encouragement in recent developments to justify active prospecting. A good deal of ground has not yet been touched, and there are indications on the surface of the existence of a parallel reef that would well be worth following up. The prospects had distinctly improved in the interval of three months between my first and second visits.—Matthew Taylor Brown.

—WESTERN AUSTRALIAN DEVELOPMENT CORPORATION.—Dorothy, Fortnightly report: Incline shaft. This has been struck a further distance of 27 feet, making a total of 111 feet.—Crushing. A further 26 tons have been sent to Bayley's south battery. The ground is very loose and necessitates careful timbering, thus making the progress slower than had been anticipated.

HARRIETVILLE.—Fortnightly report of Mr. T. G. Davey, superintendent, dated September 25:—Bibby's lode, Tiddledee Mine. Lode in stopes at back of tunnel F about 1 foot wide, and valued at 8 dwts. of gold per ton. We have commenced to sink on the flat lode south of tunnel F 200 feet below the surface, the winze being now 12 feet deep. The lode here is 1 foot wide, and although auriferous barely payable. We are about to sink a second winze from a point about 60 feet north of the above, where the lode is 2 feet wide and valued at 1 ounce of gold per ton.—Saint Bernard Mine. Crosscut east of drive, north of Pennsylvania shaft, driven 20 feet, intersecting a vein of quartz 4 feet wide, in which gold occurs in small and isolated patches. Generally the lode is not payable, and has been abandoned.—Returns. We cleaned up on the 17th instant for the following returns—viz., Tiddledee Mine 120 tons, yielding 19 ounces 3 dwts. of melted gold, including 10 ounces of gold obtained from the treatment of tailings and concentrates treated at pyrites works

RIPANJI QUICKSILVER AND SILVER.—Manager reports:—Mill produced for the eight weeks, from September 7 to October 31, 83,196 kilogrammes concentrates (of this, 12,692 kilogrammes was obtained in the last week from new ore body in 49 metre level), against 37,595 kilogrammes concentrates for the previous four weeks to September 5,

AFRICAN.

LANGLAAGTE ESTATE AND GOLD.—Report for the week ending October 3: Tons of ore sent to mill, 424. Tailings under treatment, 2640. Concentrates under treatment, 11. Assay value of ore milled, 9 dwts. 23 grains. Assay value of tailings, 1 dwt. 11 grains. Assay value of concentrates, 1 ounce 11 dwts. 4 grains. Machinery working satisfactorily. Erection of new 40 stamps and pumping station making good progress. Water supply in dam risen 1½ feet by recent rains.

BLOCK B LANGLAAGTE ESTATE.—The London agents, the Robinson South African Banking Company, have received the following report for the week ended October 3: Development, 83 feet by hand labour. Ore sent to mill, 1370 tons. Tailings treated, 950 tons. Concentrates treated, 28 tons. Machinery working satisfactorily. Water supply good.

LANGLAAGTE STAR.—Weekly report dated October 3: Development, 85 feet. Ore sent to mill, 285 tons. Concentrates treated, 24 tons. Assay value, 2 dwts. 1 ounce 4 dwt. 12 grains. Tailings treated, 940 tons. Assay value, 2 dwts. 1 grains. Machinery working well. Mill shut down three days owing to the breakdown of pump. Water supply good.

ROBINSON RANDFONTEIN.—Weekly report dated October 3: Main shaft sunk 15 feet. Development, 269 feet. Reef cut second level. No. 4 winze assays 123 ounces 2 dwts. 4 grains for 4 inches. No. 5 winze assays 8 ounces 15 dwts. for 4 inches, 11 dwts. 1 grains for 4 inches. No. 5 winze assays 32 ounces 8 dwts. for 4 inches. Compressor plant now being erected.

ROBINSON RANDFONTEIN.—Report for week ending October 3: Development, 113 feet. Main shaft sunk 7 feet. Assays range from 18 dwts. to 5 ounces. Foundation for compressor almost completed.

MYNPACHT RANDFONTEIN.—Weekly report dated October 3: Main shaft sunk 17 feet, depth 376 feet. Permanent sinking engine and boiler erected. Foundations for compressor in hand.

FORBES RANDFONTEIN.—The London agents, Robinson South African Banking Company (Limited) have received from Johannesburg the following report for the month ending September 30:—Tons crushed 1575. Copper plates on for 40 stamps, besides 539 ounces gold obtained. 825 tons of tailings in hand, assay value 4 dwts. 5 grains. Development 211 feet.

NORTH RANDFONTEIN.—Report for month of September:—Development 12 4 feet, exposing 10,160 tons of ore. Main shaft sunk to the 4th level. Successful trial run of drill engine. Crushing will start on October 15.

ROBINSON DIAMOND.—Monthly report, dated September 30:—Machinery has been ordered by the company. A 1000 horse power engine with rotary pans and all other appliances, to treat 4000 loads of 16 cubic feet per diem, is now being erected. Reservoirs capable of containing 10,000,000 gallons of water are also being constructed. The machinery is of the latest improvements, with rollers and crushers, and no ground will be placed on depositing floors, but all diamondiferous soil hauled from the mine will be put through the machinery direct, thus saving a large amount of money which would otherwise be expended in waiting for the ground to pulverise. The plant is guaranteed to be perfect in every respect.

LISBON-BERLYN.—The manager's advices give the following details of work done during September: Mining. Theta south, 368 feet driven, thickness of reef 30 inches, output 742 tons, assay value per ton 10·60 dwts. Theta mill section, 181 feet driven, thickness of reef 16 inches, output 499 tons, assay value 10·70 dwts. Theta west creek, 108 feet driven, thickness of reef 8 inches, output 83 tons, assay value per ton 12·25 dwts.—Prospecting. Theta north, 133 feet driven, thickness of reef 5 inches, assay value per ton 2 dwts. Theta mill section, 37 feet driven, thickness of reef 5 inches, assay value per ton 2½ dwts. —Milling and dry crushing. Five stamps crushed 232 tons ore, assaying 8 dwts. per ton, and the bullion recovered amounted to 25·77 ounces, valued at £75 10s. The total weight of bullion from the amalgam for the last three months was 57·28 ounces, valued at £153. The rock breakers ran for a week and crushed 648 tons ore for treatment at the cyanide works.—Cyaniding. Owing to the supply of cyanide being exhausted, only 420 tons were treated, and the bullion recovered amounted to 237·77 ounces, valued at £670.—Office Note. As already reported, a supply of cyanide reached the mine on October 19, when the treatment by this process was resumed. The manager further reports a rainfall of 1¼ inches, and states that there was every appearance of the drought being ended.

MEYER AND CHARLTON.—Report for the month of September: Mine. Number of feet driven, sunk, and risen 840 feet. Ore opened up by development 7981 tons. Quartz mined 11,473 tons.—Mill. Number of days (24 hours) working 26 stamps 27 days. Ore crushed 9755 tons. Yield in smelted gold 2701 ounces. Yield per ton 5 dwts. 17·529 grains.—Cyanide works. Tailings treated 6040 tons. Yield in bullion 1454 ounces 5 dwts. 1·44 grains. Yield per ton treated 4 dwts. 9·127 grains. Working cost per ton treated 3s. 7·015d.—Expenditure and revenue. Working expenditure. To mining (including maintenance) £5344 3s. 10d. To transport £105 19s. 5d. To milling (including maintenance) £1616 19s. 10d. To cyanide works (including maintenance) £1318 2s. 9d. To general charges £362 3s. 4d. To mine development redemption account £1463 5s. Profit for month £604 1s. Total £14,676 16s. 2d.—Revenue. By gold accounts. 2 795·000 ounces from 26 stamp mill, at 73s. 6d. per ounce £10,271 12s. 6d. By 1,454·253 ounces from cyanide works, at 60s. per ounce £4362 15s 2d. Total 4,249·253 ounces. By sale of slimes £192 11s. By rents £49 17s. 6d. Total £14,876 16s. 2d. Summary of revenue and expenditure (on basis of tonnage milled) 9755 tons. By value of yield—mill £1 1s. 0·7104d. per ton. By value of yield—cyanide works 1s. 11·236d. per ton. Total £1 10s. 0·046d. per ton. To mining expenses 11s. 7·23d. per ton. To transport 2 607d. per ton. To milling 2s. 5·878d. per ton. To cyanide 2s. 5·230d. per ton. To general charges 1s. 11·672d. To maintenance 1s. 10·211d. per ton. To mine development redemption 3s. per ton. To total working costs £1 2s. 1·973d. per ton. To profit 7s. 10·073d. per ton. Total £1 10s. 0·046d. per ton.—Expenditure on capital account. Mine development £2384 7s. 5d. Machinery, plant, buildings, &c., £3 90 16s. Total £6475 3s. 5d.—Crushed during the month. Main reef 3886 tons. South reef 5792 tons. Leader reef 1077 tons. Total 9755 tons.

ROBINSON.—General manager's summary of operations of the company for September, together with statement of expenditure and revenue, as follows: Mine. Quartz mined, 14,045 tons.—Permanent works. Main incline shaft (west) sunk 37 feet. Main incline shaft (east) sunk 63 feet.—Development. Drives 161 feet. Raises 192 feet. Crosscuts 145 feet. Total, 578 feet.—Main incline shaft (west). Sinking below the 10th level, 37 feet.—6th level. Raises, 28 feet Crosscuts, 42 feet.—7th level. Driving east on south reef, 8 feet. Raise, 14 feet. —8th level. Raise, 25 feet.—9th level. Driving west on main reef, 14 feet. Raise, 20 feet.—10th level. Driving east on south reef, 12 feet. Raise, 31 feet. —Main incline shaft (east). Sinking below the 10th level 63 feet.—6th level. Raises, 27 feet. Crosscuts, 21 feet.—8th level. Driving west on main reef, 20 feet. Driving west on south reef, 3 feet. Raise, 7 feet.—7th level. Driving west on south reef, 27 feet. Raise, 26 feet. Crosscut 41 feet.—8th level. Crosscuts, 32 feet. Raise, 24 feet.—9th level. Driving east on main reef leader, 20 feet. Driving east and west on south reef, 37 feet. Crosscut, 9 feet. Total, 578 feet.—Mill. Stamps at work 120, net running time 25 days, tons crushed 14,045, tons per stamp per diem 4·7, gold won from above 11,594 ounces 13 dwts.—Chlorination and cyanide works. Gold won from own concentrates (by chlorination) 83 ounces, bullion from tailings (cyanide process) 2557 ounces, bullion from mines, Rand Central O.R. Co. (Limited) 929 ounces, from own ore 15,943 ounces 12 dwts., gold from concentrates purchased (by chlorination) 3293 ounces 11 dwts., total 19,224 ounces 5 dwts.

EXPENDITURE AND REVENUE, MONTH OF SEPTEMBER, 1896.

Working Expenditure.

Crushed 14,045 tons.

Mining account (including mine maintenance)	£10,347	9	2	.....	£0 14 8·32
Milling account (including mill maintenance)	3,519	10	8	.....	0 5 0·31
General maintenance account	617	4	3	.....	0 0 8·34
General charges	2,140	7	6	.....	0 3 0·57
	£16,534	11	8	.....	£1 3 6·54
Expenditure on mine development (including main shafts)	2,391	3	4	.....	0 3 3·15
Ditto on machinery, plant, and buildings	2,427	11	11	.....	0 2 0·40
	£20,253	6	11	.....	£1 8 10·09

Retreatment Account.

Working expenses at cyanide and chlorination works	£2,870	7	3
Cost of concentrates purchased (including receiving)	1,712	1	2
	£34,035	15	4
Profit for month			£37,025 4 10
			£99,061 0 2

Revenue.

Gold account (mill) 11,594 ounces 13 dwts...	£12,612	10	5	
Sundry revenue	430	0	0	
				£13,042 10 5
Slimes plant account:— 5402 tons slimes delivered	599	16	11	
Company's share of profit	504	16	9	
				1,104 13 8
Retreatment account:— Gold account (tailings) 2557 ounces	8,749	4	9	
Gold account (own and purchased concentrates) 4153 ounces 12 dwts.	17,164	18	4	
				25,914 3 1
				70 061 7 2
Less amount charged in excess of book entry for July and August gold				1,000 7 0
				£69,061 0 2

Owing to a breakdown in the machinery, five days were lost in milling.

WITWATERSRANDT (Knights).—Advice by mail states that crushing was started with the new 60 stamp mill on October 1. The cyanide works are not quite complete, but will be in the course of the next few days.

AUSTRALIAN AND NEW ZEALAND.

ANGLO-FRENCH GOLD FIELDS OF AUSTRALASIA (Northern Territory).—The following are extracts from the mail and cable reports received from Mr. Harry Harvey, M.E., the company's managing engineer with the exploring expedition now on the territory owned, which consists of 3942 square miles, over the whole of which special and exclusive rights have now been obtained:—Letter dated August 12. On July 9 I sent off the prospecting party to meet me at a point on the west bank about 40 miles up the South Alligator River, and met them on the 12th, taking with me the Government Resident. I reached the mouth of the river on Sunday the 19th. The entrance to the river at this point is from 4 to 5 miles wide. Proceeded up the river, carefully sounding the whole time. Although the river winds considerably, it is navigable for a vessel of from 800 to 1000 tons for 30 miles, from which point we obtained water varying from 2 to 1 fathoms (low water). The South Alligator is a splendid river, and even 40 miles up is ¼ mile wide within a strong tide. Arrived at the main camp depot on the 20th. The site of the camp is situated on the bank of a large lagoon, about 1 mile long by ½ mile across; this is permanent water. I divided the party into two sections, sending one to the east and the other to the western portion of our property.—Cable dated August 14. Have returned. Country is auriferous, big quartz blows, four reefs hard white quartz. Have only knapped (sic) cap, men now costeaning. Appearances are very favourable between East and South Alligators, to prospect have had to burn grass 14 feet high.—Letter dated September 14. I have just returned from the Alligators, and I am perfectly satisfied that the country held by the company is auriferous, and cabled you to that effect to-day as per copy of cablegram enclosed (see above), and it only needs prospecting to prove its value. There are immense blows of quartz and outcrops of quartz reefs on the western side of the South Alligator, and this is even more marked on the east side of the South Alligator ranging been that river and the East Alligator. We have had very great difficulties to contend with in prospecting, as this part of the country has never been traversed by white men, and the amount of grass prevents the possibility of inspection. You will see by this that it was impossible to trace and define reefs in this country until such time as the country was cleared. This we have been endeavouring to do. I have put the men of one party costeaning on a big blow of quartz to the east of the South Alligator River, about 45 miles from its mouth, and hope to obtain good results, of which I will cable you on obtaining them. You will, I feel sure, see that in the short time we have been at work it is almost impossible to thoroughly prospect and investigate the large tract of country possessed by the company. The conditions under which we are obliged to work render progress somewhat slow. I am taking every advantage of the dry season in order to advance the interests of the company before the wet season sets in. The second party are down on the south-west portion of our property, and I trust to be able to report good results, as this country is in the regular trend and run of country which is giving good results to the south-west of us. The formation of the country is granite, diorite, ironstone, and slate.

ACHILLES GOLD FIELDS.—As the crushing for a portion of October has been cabled by the managing director as 400 tons of ore, yielding 120 ounces of gold, the directors wired for an explanation of the low returns, and the following reply has been received:—"There is no cause for alarm. There is an abundance of ore. We are now opening up No. 5 level. There is not sufficient time allowed in carrying out the explorations. Rich ore in the centre of the full breadth of the lode 15 feet. The development in this working has been most encouraging.—150 feet east. The average width of lode is 9 feet, worth 20 dwts. per ton. The outlay will be soon repaid; it is absolutely necessary."

AUSTRALASIAN.—Fortnightly report of Mr. John James, manager, dated September 24: During the past fortnight the crosscut west at the 768 feet level has been extended 17 feet, total 163 feet from the shaft. The country is still hard conglomerate, but breaks a little better. The crosscut west at the 634 feet level has been extended 21 feet, total 53 feet. The country is a purple conglomerate, not good for working at present, but I expect better ground soon. Everything about the mine and winding engine is in good working order.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending September 23:—Blackwood shaft, 200 feet level. South drive off No. 1 west crosscut driven 6 feet, total 6 feet, showing fair grade sulphides. The southern section stopes yielded usual quantity of fair grade carbonate ore. 248½ tons were broken for the week. Some high grade lead ore was won from east vein stope above 100 feet level, but stope below same level still looks rather patchy. 152½ tons were broken for the week. Stope going northwards from No. 1 crosscut, 160 tons of sulphide were broken.—Howell shaft 100 feet level. Splendid faces of carbonate ore are being worked above and below this level in far north stopes. These stopes yielded 623 tons carbonate ore for the week.—230 feet level. Are stoping good milling sulphides between Nos. 1 and 2 west crosscuts, and various faces are opening up well.—300 feet level. Large southerly drive started off west crosscut is opening up good milling sulphides. The sulphide stope off east crosscut is opening up very satisfactorily. 174 tons sulphide ore were broken for the week.—Surface. The new slime pits will be finished in a day or two. One section of mill now running on carbonates and the other on sulphides. Started treating sulphide ore last Monday.—Assays for the week. Carbonate ore—lead 13·5 to 46 per cent., silver 3 to 12·7 ounces. Sulphide ore—lead 10 to 41 per cent., silver 6·8 to 17·6 ounces, zinc 15 to 28·5 per cent.

CHARTERS TOWERS CONSOLIDATED.—The manager writing on Sept. 12 says:—Mosman Company's shaft. The men employed here are still breaking good stone.—Tunnel. The reef was blasted up again last night, and when examined showed gold very freely. There is no doubt it is of very good quality.

CRESCENT.—Superintendent's report for fornight ending September 25: Crescent Mine. Underhand stopes north of winze below tunnel A (40 feet level. Lode 10 feet wide, and valued at 6 dwts. per ton. The auriferous shoot is dipping north, and we have commenced to drive towards it from bottom of winze 35 feet level.—Victory Mine. Winze on main lode south of tunnel east sunk 3 feet 6 inches, total 50 feet. North drive from the bottom of the above winze extended 9 feet. There is a small vein of quartz in the face which carries only colours of gold. We may meet with an improvement, however, at any time. Drive south of tunnel east on a lode about 200 feet west of and parallel to Victory main lode advanced 12 feet. Lode about 18 inches wide, and carrying colours of gold. We have commenced to sink from the surface on the western lode. The shaft is now 10 feet deep, but the lode is poor and barely payable.—Chance Mine. Crosscut east of drive south of Howard's tunnel advanced 23 feet, total 53 feet. The ground has become much softer, but as yet no lode has been reached.—Orlando Mine. Drive south of tunnel P 160 feet below the surface advanced 13 feet, total 141 feet. The ground has become much softer, and we should soon reach the auriferous shoot.—Returns. We cleaned up on the 17th instant for the following returns, viz.: Victory, 88 tons, yielding 53 ounces of gold. Crescent Mine, 349 tons, yielding 102 ounces 16 dwts. of gold. Total, 155 ounces 10 dwts. of melted gold.

GOLDEN HORSESHOE.—Messrs. Bowes Scott and Co.'s (resident engineers) mine report for fortnight ending September 24: Main shaft, north drive, 45 feet driven during fortnight, total 103 feet, average size of reef 4 feet. Pannings give 1 ounce per ton. The lode in this drive has been very much broken with horses of country stuff intruding. An improvement has taken place during the last few feet driven, the lode having become more compact and freer from entrusive matter, the width on the face at present being about 4 feet. Samples give about the usual result. Everything in connection with the winding plant is now complete and the work of haulage from the mine will be done by the engine from Monday next.

GLENROCK CONSOLIDATED.—The latest advices from Mr. W. H. Tinney dated Coolgardie, September 26, report as follows: Leviathan group. Good progress has been made in the main shaft. It was commenced on August 28, and is now 25 feet deep. As only five men are employed, and we have had to fell and carry in all timber required, the rate of sinking is very good. The bottom of the shaft is now in blasting ground. At 15 feet from surface a leader, carrying coarse, visible gold, was passed through. It is not large enough to be important, but it shows how thoroughly auriferous the lease is. The shaft will be divided into four compartments, two for hoisting and the others for pump and ladder way. It will open up enough ground to keep a 10 head battery going for years.—Water right. The Government keep water rights as far as possible in their own hands, and my application for 45 acres for the Leviathan is still under consideration. No doubt it will be eventually granted. The first thing necessary is to get down the main shaft and to connect it with the present workings, to ensure a supply of stone regularly for the battery. The second thing needful is to obtain water for the boilers and battery, possibly by sinking the shaft, but preferably by having our own pumping plant from the water rights.—48 acre block, Dunedin lease. The shaft has been sunk 19 feet, total depth 25 feet. The reef has not yet been struck.—Penrose lease. Shaft sunk 18 feet, total depth 39 feet. The reef is holding down regularly, and in sinking down the last 18 feet a good pay shoot has been passed through. The miners saved ¼ cwt. of stone, all showing visible gold. 12 tons of ore have been raised from this shaft since sinking. I consider it will mill over 1 ounce to the ton.—Tolbooth lease. A strong body of ironstone courses the lease at an angle with the reef. Trongate lease. The shaft has been sunk 22 feet, total depth 29 feet. 6 feet up from the bottom there is a nice solid reef 18 inches wide. 8 tons of ore have been raised from this shaft. Several leases have been taken up around your Dunedin group. This property has all the elements of success, and is far above many of those about which so much enthusiastic nonsense is written. My reports are not in the usual West Australian style, but are accurate records of the works at the date given, and will be confirmed on examination by any competent man. If it is your intention to bring this out as a subsidiary company we might have a report made by Dr. Chewings.

GREAT BOULDER PERSEVERANCE.—Extracts from mining report for fortnight ended September 24:—No. 1 shaft. Drive south on course of lode has been driven 8 feet. The lode here is about 3 feet in width and assays from 1 ounce to 2 ounces per ton. Drive north has been driven 8 feet during the fortnight, total 15 feet 6 inches. Here the lode has pinched down very small, so have stopped this drive and put the men on driving south.—No. 3 shaft. This shaft has been sunk for fortnight 5 feet 9 inches, total depth 177 feet 3 inches. We expect to cut water before reaching the 200 feet level.—No. 4 shaft. This shaft has been sunk 5 feet during fortnight. The ground still continues very hard. We are now engaged timbering up the shaft and making it secure. No. 6 shaft has been sunk for fortnight 7 feet 6 inches, total depth 113 feet 6 inches, still in lode. Drive south on course of lode has been driven 5 feet during fortnight, total length 78 feet. The lode here is as good as ever. Drive north has been driven another 5 feet, total length 45 feet. Have stopped driving, and we are now crosscutting east from the end of drive, and are now in 6 feet. The ground is very hard, and has no doubt thrown the lode to the east. Will keep this crosscut going to make sure whether the lode is to the east or not.—No. 8 shaft. Crosscut west has been driven 9 feet for fortnight, total length 33 feet. No change here. Crosscut east has been driven 13 feet 9 inches for fortnight, total 19 feet 9 inches. There is a slight change in this crosscut. The ground is much better.—No. 7 shaft. Have again started to sink this shaft on Mr. Lane's advice.

LONDON AND WESTERN AUSTRALIAN EXPLORATION.—Mail reports to hand:—Mount Magnet Proprietary. On the Wheel of Fortune lease the lode in the south drive is of good size and very good quality. On the Splendour lease a crosscut west has been made at the 71 feet level in the new shaft. The lode was struck 17 feet in, and is a solid body of stone about 2 feet in thickness. A winze has been sunk 7 feet on the rich chute in the upper level, and every foot produced good stone.—Find on Block 48 Hampton Plains. The stone in drive off No. 2 shaft has improved and gold can be seen in breaking. The reef is on average considerably over 3 feet wide, and appears to be making stronger at depth. 300 tons of stone are at grass, estimated to average considerably more than 1 ounce to the ton.

LONDON AND WESTERN AUSTRALIAN INVESTMENT.—We are officially asked to publish the following:—This company has acquired town blocks Nos. 115 and 126, at the corners of Talbot-street and Goodlife-street, in the Norseman township. Owing to the great impetus which the mining industry has recently received in this district, the value of town sites is rapidly increasing, and there is a great demand for house accommodation.

NEW OPTIONS.—Extract from letter received from Mr. T. G. Davey, dated September 26: Monarch Mine. The shaft is now 75 feet deep, and excellent prospects are at times being obtained. The lode is at present valued at about 1 ounce of gold per ton. The double tramway has been laid in the shaft, and the trucks are working very satisfactorily. Now that the snow has disappeared two experienced men have been engaged to prospect on the surface, and I hope to be able in a few weeks to report the discovery of fresh auriferous deposits.

LONDON AND NEW ZEALAND EXPLORATION.—The company's agents in New Zealand report: Komata Amalgamated. By the manager's last report we are informed that in addition to other well-known reefs which must traverse the property, another reef has been discovered having a width apparently of about 12 feet. Its assay value has not yet been determined.

MENZIES GOLD ESTATES.—Mine manager's report dated September 26: No. 2 shaft on Aurelia has been sunk 7 feet since my last report, and the depth now from surface on this underlay is 130 feet. The lode formation is more than the full width of shaft, consequently there is a streak of quartz on the footwall side which we cannot carry in the sinking, as by so doing the shaft would be too wide. At present I am sinking on the new streak on the hanging wall side, and I am pleased to be able to report a bulk sample of the quartz broken for the week assayed 6 ounces 11 dwts. 2 grains per ton. The gold both coarse and fine is very heavy—no flake gold. The shaft on C cone is in very hard ground, present depth 19 feet. I have only one shaft on here which complies with labour conditions. On Etrenna lease the two shifts on main shaft are making fair progress with the work, and are now down 43 feet.—Mill. The water service pipes are finished and ready for connecting with supply pipes when laid. The concrete blocks for foundations under bearings of main driving shaft is completed, and the shafting and pulleys fixed in place. Two of the concrete foundation blocks for engines are finished, and the third will be made the beginning of the week, after when the engines will be put in place. The excavation of four settling pits is finished ready for boarding with 2 inch plank. All the other work connected with mill is being pushed on as fast as possible.

NEW AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager reports by mail for the fortnight ended September 24 as follows:—Block 96, Incline sunk 2 feet, total 612 feet. Lode at the extreme bottom has an encouraging appearance. Galena is showing, with which some copper pyrites is associated. Water influxing in the usual quantity. No. 6 level east driven 8 feet, total 141 feet 6 inches. Lode continuous but presents a very disturbed appearance. A small stream of water flows from the face. Stopes below 230 feet level west driven 329 cubic feet. Have suspended operations here, as the result of our explorations has been somewhat discouraging. Crosscut north from 280 feet level west driven 14 feet, total 103 feet. Ground continues of the same character as heretofore, but is a little tighter for working, which is due for the most part to the ground running on edge, the heads being parallel with the drive. Water flows freely from the drive.—Stope below Nos. 2 and 3 levels (180 and 280 levels). Engaged making preparation for putting up a rise on the Indicator at a favourable looking point.—North-west crosscut 280 feet level east stopes. Have let this drive on contract at 22s. per foot. Contractors just commenced work on the course of the pyrites cross vein.—Block 93. Surface prospecting. There is nothing fresh to report.—Memo. The quantity of rock mined during this fortnight was approximately 1239 cubic feet, exclusive of the work done in the stopes between Nos. 2 and 3 levels west of main shaft and on the surface.

OCTAGON EXPLORERS.—Extract from mine manager's report Sept. 19, on Tower Hill Leases:—No. 2 shaft. Have sunk a further depth of 6 feet, making a total of 30 feet from the brace. Reef still very hard, dollies well, and drillings too pan well for fine gold; gold shows freely in the stone. Can take a sample from any part of the dump, and it will give a nice tail of gold in the dish. From samples taken right across the reef in trench opposite this shaft, where the reef is about 70 feet from wall to wall, gave about 15 dwts. by panning. In the trench at No. 1 shaft where the reef is about 50 feet from wall to wall, gave by panning, as in the other case, at the rate of 14 dwts., which is very satisfactory considering the enormous quantity of stone. No. 3 shaft has been sunk a further depth of 7 feet, making a total of 38 feet from brace. Drillings gave nice tail of fine gold in the dish.

PHŒNIX (Tipperary Mine, New Zealand).—The general manager, Mr. W. J. Stanford, reports under date September 28, in regard to cablegram recently received: On September 26 the lode had widened out 5 feet thick, showing coarse visible gold above and below the No. 7 level. You will realise that No. 7 level is the bottom level of the old workings, and 66 feet above our new tunnel. If this strike lives down we shall have a stope 66 feet above the low level adit. How far above level No. 7 it will live I cannot say, but this is certain that for 200 feet above this level the ground is virgin, and no stopes have been worked. I did not myself expect the main shoot quite so soon. The level has only been extended 40 feet or thereabouts since we started working it, and I expected to have to drive fully 100 feet for the good gold. I, therefore, am of opinion that this is an intermediate block of stone, and that the best gold is still ahead of us.

QUEEN CROSS REEF.—Manager's report for fortnight ending September 15: In the No. 1 stopes the reef ranges from 6 to 20 inches of good quality. Stopes over No. 2 east drive the reef is about 20 inches of good quality. The winze in No. 2 west has been sunk 10 feet, total from drive 90 feet. It carries 20 inches of good quality, and the stopes average about 2 feet over this drive. Have stopped the No. 3 drive and started to sink the underlie shaft, which has been extended 12 feet, total from No. 2 plat 112 feet. The reef is about 2 feet of good quality. Have had a final clean up of 87 tons for 267 ounces 11 dwts. of retorted gold. Grindings yet to come, which will complete the crushing. Have started about the poppet legs, and are getting things ready for the air engine below. The quantity of stone raised for the fortnight is 140 tons, 27 tons of which were sent to the last crushing, leaving 120 tons in the paddock.

ROYAL SOVEREIGN (25, Nile, Coolgardie, W.A.).—Progress report for week ending September 17: East crosscut driven 6 feet 8 inches, making total 16 feet. West crosscut driven 3 feet, total 13 feet. Diorite formation very hard, and heavily mineralised. All cartage of water has been stopped from the Government dam. The next water required for use at mine will have to be purchased from condensers.

TAITAPU GOLD ESTATES.—Report by the Thames School of Mines, New Zealand, on some parcels of ore sent from this company's Golden Ridge Mine for treatment. Mr. F. B. Allen, director of Thames School of Mines, adds that the gold is easily saved by ordinary amalgamation, and that the property which produces such stone is a very valuable one:—Report of treatment. Laboratory No, 2143. Forwarded by W. A. Low, Esq., Taitapu Gold Estates (Limited), received July 29, reported August 29. No. 1 consisting of 250 lbs. of clean white quartz showing free gold was dried, dry crushed, sampled, and assayed as follows—Gold 12 ounces 9 dwts. 13 grains per ton, silver 1 ounce 11 dwts. 13 grains per ton, value £50 0s. 11d. per ton. 225 lbs. of the dry ore were pan amalgamated, and yielded 1 ounce 7 dwts. 7 grains of melted bullion, ·8738 fine in gold, ·1094 fine in silver, worth £3 9s. 8d. per ounce, and representing a saving of 95·1 per cent of the gold, 94·2 per cent. of the silver, and 95 per cent. of the value. The value of the 1 ounce 7 dwts. 7 grains saved from the 225 lbs. is £4 15s. No. 2 consisting of 5000 lbs. wet weight of clean white quartz was dried, dry crushed, sampled, and assayed as follows—Gold 3 ounces 15 dwts. 15 grains per ton, silver 15 dwts. 3 grains per ton, value £15 3s 10d. per ton. 4300 lbs. of the dry ore were pan amalgamated, and yielded 3 ounces 4 dwts. 14 grains of melted bullion worth £27 2s. 5d. The bullion was ·8103 fine in gold, ·1670 fine in silver, and its value £3 5s. 11d. per ounce. This represents a saving of 92·9 per cent. of the gold, 94·5 per cent. of the silver, and 93 per cent. of the value. No. 3 consisting of 2900 of part hard glassy quartz, part quartz stained with red oxide of iron was dried, dry crushed, sampled, and assayed as follows—Gold 2 ounces 2 dwts. 22 grains per ton, silver 7 dwts. 16 grains per ton, value £8 12s. 4d. per ton; 2500 lbs. of the dry ore were pan amalgamated and yielded 2 ounces 15 dwts. 15 grains of melted bullion, worth £9 8s. 6d. The bullion was ·8401 fine in gold, ·1494 fine in silver, and its value £3 7s. 10d. per ounce. This represents a saving of 93 per cent. of the gold, 96 per cent. of the silver, and 93 per cent. of the value. No. 4, consisting of 1200 lbs. of earthy, light brown, and red quartz, was dried, dry crushed, sampled, and assayed as follows—Gold 4 ounces 18 dwts. 7 grains per ton, silver 10 dwts. 2 grains per ton, value £19 14s. per ton; 103 lbs. of the dry ore were pan amalgamated, and yielded 4 dwts. 22 grains of melted bullion worth £1 8s. 3d. The bullion was ·8835 fine in gold, ·1039 fine in silver, and its value £3 10s, 10d. per ounce. This represents a saving of 93·4 per cent. of the gold, 94 per cent. of the silver, and 93·5 per cent. of the value. The gold in these four parcels is free, fairly coarse, and easily saved by ordinary amalgamation, and the property which produces such stone is a very valuable one. As practically the whole of the gold was saved in the pans no cyanide tests were made on the tailings. Cyanide treatment would be altogether unsuitable for the ore, but in actual working it would be advisable to sample and assay the tailings so that if any fine gold were passing over it could be recovered by cyanide.—F. B. Allen (director).

TRUE BLUE (Hannan's).—Mining manager's report for the fortnight ending September 29:—Shaft A has been sunk a further depth of 7 feet, and timbered to within 9 feet of the bottom. About 10 gallons of water daily is making in the sink. We are not yet sufficiently deep to get a large inflow. The total depth of the shaft from the surface still is 178 feet.—Shaft C. The north drift at the No. 1 level has been extended 19 feet, making the total distance driven from the shaft 62 feet. There is a small seam in the end, but of no appreciable value. Before suspending operations in the drift I put in two small crosscuts, 7 feet 6 inches each, on either side of the drive, but nothing of importance was revealed by this work. Shaft E, X, E, I has been extended a further distance of 45 feet, total length of crosscut 480 feet, and the western boundary of the Jubilee section reached. This has been an important work for the company, and has proved the section of the property. Three formations were cut through, the first at a distance of 250 feet from the shaft, and already driven on north from the crosscut 50 feet, and two small leaders within 70 feet of the western boundary. I am now driving north from the crosscut on each of these leaders. The average width of each in the drifts is about 8 inches.—Shaft F. The No. 2 level north drift has been extended 18 feet, total distance driven north from crosscut 56 feet 6 inches. There are 2 feet of poor quality stone in the end. I do not think it advisable to continue this drive, and have suspended operations, and am now engaged in sinking shaft F to prove the lode at a deeper level.

VICTORY (Charters Towers).—Mining manager's report for fortnight ending September 19: No. 2 shaft. The 320 feet formation level has been extended 12 feet, making total distance from shaft 461 feet, formation harder, no other change.—No. 1A. Stoping has been continued over this level on stone from 3 to 6 inches thick, quality same as last reported. No. 7 level has been extended 8 feet, making total distance from underlie 405 feet, present face in hard rock. Have hauled 7 tons of quartz, total in hopper 12 tons.—No. 3 shaft, No. 1 east. Stoping has been continued over this level on stone from 3 to 9 inches, quality good. Have started to sink the winze again on the 14th, have sunk 7 feet 6 inches, making total depth 72 feet, 9 inches stone in face, quality fair.—No. 2 east. Stoping has been continued over this level on stone from 6 to 12 inches thick, the quality of this stone is improving.—No. 3 east. This level has been extended 18 feet, total distance from shaft 50 feet.—No. 3 west. This level has been extended 24 feet, total from shaft 60 feet, 6 inches of stone showing in the present face. We have started to sink the underlie again to-day. Quartz hauled for the fortnight 85 tons, making a total of 170 tons towards present crushing.

VICTORIA AND QUEEN.—Manager's report for fortnight ending September 15: Have driven No. 4 crosscut a further distance of 48 feet, making the total 111 feet from shaft. No. 5 drive has been driven 20 feet, making the total 45 feet. The reef in the north side is about 15 inches of fair quality. The reef in the underhand stope bottom of No. 4 varies from 6 to 15 inches of good quality stone. The reef in the face of No. 4 is about 15 inches of fair quality stone. The back stopes, No. 4, and underhand stope No. 3 have from 6 inches to 1 foot of stone of fair quality, also the back stope No. 3 and underhand stopes No. 2. The back stope No. 2 shows about 9 inches of stone heavily mineralised. From this stope we have hauled 40 tons for the fortnight, and 140 tons from the others, making 180 tons hauled for the fortnight, and 425 tons for the present crushing. During the fortnight 270 tons were crushed for a yield of 643 ounces 16 dwts. 3 grains of gold.

INDIAN.

BALAGHAT-MYSORE.—Report for the fortnight ending October 10:—Ogle's shaft. The 410 feet level south has been driven 16 feet, total distance from the crosscut east 125 feet 6 inches. Quartz 5 inches wide, assays 1 dwt. 15 grains of gold per ton.—Haines's shaft. The 410 feet level has been driven north 9 inches, total distance from the shaft 236 feet. With a view to ascertaining the full width of the lode at this point, a crosscut is being driven east, and has already been extended 4 feet 9 inches in this direction, in lode matter throughout, which assays a trace of gold.—Thomas Richards.

MYSORE.—R. Hancock, Mining operations for the fortnight ending Oct. 12: Rowse's shaft. 1460 feet level north of the crosscut west. The winze in the bottom of this level has been sunk 5 feet, making a total depth of 75 feet. The sinking has been hindered by water. The lode in the stope in the back of this level is 1 foot wide, assaying 1 ounce 12 dwts. 16 grains.—1490 feet level north of sump winze. There are two stopes in the back of this level, the average width of the lode being 4 feet, giving an average assay of 10 dwts. 16 grains.—1460 feet level north of crosscut east. This level has been driven 12 feet, making a total distance driven of 79 feet. The lode is 5 feet wide, assaying 2 ounces 3 dwts. 6 grains. The rise in the back at the end of the crosscut has been put up 7 feet 6 inches, making a total height of 37 feet. The lode is 4 feet wide, assaying 2 ounce 3 dwts. 6 grains.—1460 feet level south of crosscut east. This level has been driven 18 feet, making a total distance driven of 39 feet. The lode is 1 foot wide, assaying 7 dwts. 3 grains.—1360 feet level south of crosscut, south of Rowse's. The winze in the bottom of this level has been sunk 6 feet, making a total depth of 46 feet. The lode is 1 foot 6 inches wide, assaying 1 ounce 7 dwts. 10 grains. There are six stopes in the back of this level, the average width of the lode being 1 foot 3 inches, giving an average assay of 1 ounce 5 dwts. 18 grains.—1360 feet level north of crosscut, south of Rowse's. The lode in the stope in back of this level is 1 foot wide, assaying 3 dwts. 6 grains.—1360 feet level north of sump winze. There are two stopes in the back of this level, the average width of the lode being 2 feet, giving an average assay of 1 ounce 1 dwt. 12 grains.—1360 feet level north of sump winze north of crosscut. This level has been driven 21 feet, making a total distance driven of 156 feet. The lode is 4 feet wide, assaying 7 dwts. 3 grains. The rise in the back of the crosscut (north-east level) has been put up 6 feet, making a total height of 75 feet, and holed to the 1250. Rise No. 2 has been started 145 feet north of the above, risen 5 feet. The lode is 5 feet wide, assaying 1 ounce 12 dwts. 16 grains.—1360 feet level north of sump winze south of crosscut. This end has been driven 15 feet 6 inches, making a total distance driven of 149 feet 6 inches. The lode is 1 foot 6 inches wide, assaying 1 ounce 14 dwts. —1360 feet level south of sump winze. There are three stopes in the back of this level, the average width of the lode being 2 feet 2 inches, giving an average assay of 1 ounce 4 dwts. 4 grains.—1280 feet level north. There are three stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 1 ounce 15 dwts.—1260 feet level north of crosscut. Rise No. 2 has been put up 14 feet, making a total height of 29 feet. The lode is 4 feet wide, assaying 1 ounce 10 dwts. Rise No. 4 has been put up 13 feet, making a total height of 49 feet. The lode is 3 feet wide, assaying 6 dwts. 12 grains.—1260 feet level south of crosscut west. This level has been driven 11 feet, making a total distance driven of 71 feet. The lode is 2 feet wide, assaying 4 dwts. 13 grains. There are four stopes in the back of this level, the average width of the lode being 1 foot 10 inches, giving an average assay of 13 dwts. 17 grains.—1160 feet level north of Rowse's north of crosscut. This end has been driven 11 feet, making a total distance driven of 490 feet. The lode is 3 feet 6 inches wide, assaying 2 ounces 4 dwts. There are two stopes in the back of this level, the average width of the lode being 6 feet, giving an average assay of 1 ounce 18 dwts. 14 grains.—1160 feet level south. There are six stopes in this level, the average width of the lode being 1 foot 4 inches, giving an average assay of 17 dwts. 21 grains.—North of the crosscut. The lode in the stope in the back of this level is 1 foot wide, assaying 1 ounce 6 dwts. 3 grains.—1060 feet level north crosscut east. This has been driven 15 feet, making a total distance driven of 186 feet 6 inches.—640 feet level south. There are two stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 9 dwts. 18 grains.—Crocker's shaft. The crosscut west to the 1160 from the bottom of this shaft has been driven 28 feet, making a total distance driven of 93 feet.—890 feet level north of crosscut east. This has been driven 11 feet, making a total distance driven of 182 feet 6 inches.—North of the crosscut. This end has been driven 11 feet, making a total distance driven of 22 feet. There is lodey matter in the end, assaying 2 dwts. 14 grains. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 1 ounce 4 dwts. 14 grains.—890 feet level south. There are five stopes in the back of this level, the average width of the lode being 2 feet 10 inches, giving an average assay of 18 dwts.—780 feet level south. There are 10 stopes in the back of this level, the average width of the lode being 2 feet 2 inches, giving an average assay of 15 dwts. 21 grains.—320 feet level south. The lode in the stope in the back of this level is 2 feet wide, assaying 1 ounce.—Gilbert's shaft 900 feet level north. This level has been driven 18 feet, making a total distance driven of 131 feet. The lode is 9 inches wide, mixed, assaying 1 dwt. 7 grains. The crosscut west from the shaft at the 900 has been suspended.—650 feet level north. This level has been driven 19 feet 3 inches, making a total distance driven of 515 feet. The lode is 1 foot wide, mixed, no assay made. The crosscut east in this level has been driven 15 feet, making a total distance driven of 163 feet. We have started to drive north from this crosscut 37 feet 6 inches from the level. Driven 8 feet. The lode is 8 inches wide, assaying 1 dwt.—650 feet level south. This level has been driven 11 feet 6 inches, making a total distance driven of 268 feet 6 inches. There is nothing here to report.—520 feet level north. There are four stopes in the bottom of this level, the average width of the lode being 1 foot 10 inches, giving an average assay of 10 dwts. 7 grains.—360 feet level north. The lode in the stope in the bottom of this level is 1 foot 6 inches wide, assaying 13 dwts 1 grain.—290 feet level north. The lode in the stope in the bottom of this level is 1 foot wide, assaying 6 dwts. 12 grains.—290 feet level south. The lode in the stope in the bottom of this level is 2 feet 6 inches wide, assaying 7 dwts. 3 grains.—120 feet level south. The lode in the stope in the bottom of this level is 2 feet wide, assaying 18 dwts. 6 grains.—Tennant's shaft. 750 feet level north of crosscut west. This level has been driven 17 feet, making a total distance driven of 597 feet 6 inches. The lode is 1 foot wide, assaying 3 dwts. 6 grains. —750 feet level south of crosscut west. This level has been driven 13 feet, making a total distance driven of 91 feet. The lode is 2 feet wide, mixed, assaying 6 dwts. 12 grains.—360 feet level north, south of crosscut. There are two stopes in the bottom of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 12 dwts. 4 grains.—Schaw's shaft 320 feet level north. There are two stopes in the back of this level, the average width of the lode being 2 feet 3 inches, giving an average assay of 3 dwts. 6 grains.—McTaggart's shaft. This shaft has been sunk 7 feet 4 inches, making a total depth of 38 feet below the 790.—790 feet level north. This level has been driven 12 feet, making a total distance driven of 90 feet. The lode is 4 feet wide, assaying 1 ounce 7 dwts.—790 feet level south. This level has been driven 3 feet, making a total distance driven of 33 feet and suspended.—640 feet level north of the crosscut west. This level has been driven 1 foot 6 inches, making a total distance driven of 53 feet 10 inches.—650 feet level south of the crosscut west. The lode in the stope in the back of this level is 1 foot wide, assaying 13 dwts. 6 grains.—550 feet level north. This level has been driven 2 feet, making a total distance driven of 423 feet 8 inches. The lode in the stope in the back of this level is 1 foot wide, assaying 1 ounce 3 dwts. 6 grains.—550 feet level south of the crosscut west. The lode in the stope in the bottom of this level is 1 foot 6 inches wide, assaying 14 dwts. 18 grains.—450 feet level north. There are three stopes in the bottom of this level, the average width of the lode being 1 foot 4 inches, giving an average assay of 1 ounce 2 dwts. 9 grains.—450 feet level south. The lode in the stope in the back of this level is 1 foot wide, assaying 2 dwts. 14 grains.—Prospect shaft No. 2. The sinking of this shaft has been suspended.—Ribbledale's shaft. 1620 feet level north. This level has been driven 6 feet, making a total distance driven of 120 feet. Progress here has been hindered by water.—1520 feet level north. This level has been driven 13 feet, making a total distance driven of 394 feet. The lode is 5 feet wide, assaying 1 ounce 10 dwts.—1520 feet level south for plat. This level has been driven 6 feet, making a total distance driven of 27 feet.—1060 feet level north of crosscut west. This end has been driven 9 feet, making a total distance driven of 85 feet. There are a few small stringers in the end. —Williams' shaft. Crosscut east from the 173 south of crosscut. Temporarily suspended while the shaft is being repaired. Health good.

MYSORE REEFS (Kangundy).—Fortnightly report of Captain M. Scantlebury, mine agent, dated October 14: Underlie shaft. This shaft has been sunk 7 feet 6 inches, now 66 feet 6 inches below the 550 feet level. The lode is 18 inches wide, composed of schist and quartz, assaying 5 dwts. of gold to the ton. 550 feet level north has been extended 10 feet 3 inches, now 122 feet 6 inches from shaft. The quartz is 2 feet wide, assaying 1 ounce 2 dwts. of gold to the ton. Rise above this level was communicated with the winze below the intermediate level.—Stopes below intermediate level north. The quartz is 18 inches wide, assaying 14 dwts. of gold to the ton.—Stopes south of winze. The quartz is 15 inches wide, assaying 12 dwts. of gold to the ton.—Crosscut west of 425 feet level. North has been advanced 13 feet 9 inches, now 45 feet from level.—Vertical shaft. 425 feet level north has been extended 10 feet, now 96 feet from the shaft. The lode is 18 inches wide, composed of quartz, pyrites, and schist, assaying 11 dwts. of gold to the ton.—Stope in back of 425 feet level. The lode is 15 inches wide, composed of quartz and pyrites, assaying 12 dwts. of gold to the ton. Crosscut east of 260 feet level has been advanced 15 feet 9 inches, now 163 feet 9 inches from level.

NINE REEFS.—Mine report for fortnight ending October 12: Oriental lode, main shaft. This shaft has been sunk 10 feet below the 400 feet level. The lode is 5 feet wide, composed of quartz, arsenical pyrites, with a little black rock, assaying 3 dwts. 18 grains of gold per ton.—The 400 feet level north of main shaft. This has been extended 18 feet, total distance from shaft 92 feet. The lode is 2 feet 6 inches wide, composed of quartz and arsenical pyrites, assaying 3 dwts. of gold per ton.—The 400 feet level south of main shaft. This has been extended 20 feet, total distance from shaft 108 feet. The lode is 5 feet wide, composed of quartz and arsenical pyrites throughout, assaying 3 dwts. 20 grains of gold per ton.—The 310 feet level north of main shaft. This has been extended 26 feet, total distance from shaft 439 feet 6 inches. The lode is 4 feet wide, composed of quartz and arsenical pyrites throughout, assaying 3 dwts. 10 grains of gold per ton.—Morrison's shaft. This shaft has been sunk 10 feet below the 250 feet level. The lode is 5 feet wide, composed of quartz, arsenical pyrites, and a little black rock, assaying 4 dwts. of gold per ton.—New water shaft. This is suspended as we have now a full supply of drinking water.—Health. The health of the camp continues good.

NUNDYDROOG.—Thomas Richards. Report for the fortnight ending October 10: Kennedy's shaft. Tip plat at the 700 feet level has been completed, and the shaft has been sunk 3 feet, total depth 56 feet below the 700 feet level. The 700 winze has been sunk 5 feet 6 inches, total depth 15 feet below the 700 feet level. Lode 1 foot 9 inches wide, assays 1 ounce 17 dwts. 12 grains of gold per ton. The 700 north has been driven 12 feet, total distance 224 feet 6 inches. Lode 1 foot 6 inches wide, assays 2 dwts. 12 grains. The 700 south has been driven 2 feet 6 inches, total distance 167 feet. At this point the foot wall was cut into, and the main part of the lode intersected at 9 feet, where it proved to be 2 feet wide, assaying 1 ounce 12 dwts. of gold per ton. The 600 north crosscut east has been driven 3 feet, total distance 59 feet. No further portion of the lode having been met with this crosscut has been suspended. The 600 south rise has been put up 15 feet, total height 52 feet 6 inches. Lode 2 feet wide, assays 5 dwts. In the stope in the back of the 520 south the lode is 2 feet 6 inches wide, and assays 1 ounce 1 dwt. 6 grains. The lode in two stopes in the back of the 440 north averages 5 feet in width, and 1 ounce 17 dwts. 12 grains in assay value. The 440 south crosscut west has been extended 12 feet, total distance 312 feet. The lode in the stope in the back of the 370 north is 3 feet wide, and assays 17 dwts. 12 grains. In the stope in the back of the 370 south the lode is 2 feet wide, and assays 1 ounce 12 dwts. 12 grains. The 370 south rise has been put up 10 feet 9 inches, total height 44 feet 6 inches. The lode, consisting of stringers of quartz, assays a trace of gold. In the stope in the back of the 300 north the lode is 3 feet wide, and assays 2 ounces of gold per ton. The lode in the stope in the back of the 300 south is 2 feet 6 inches wide, and assays 15 dwts. The 230 south has been driven 6 feet 9 inches, total distance 480 feet. Lode 3 feet wide, and assays 6 dwts. 6 grains. North shaft has been sunk 7 feet 6 inches, total depth 121 feet 6 inches below the 600 feet level. Lode 6 inches wide, and assays 2 dwts. 12 grains. The 700 north has been driven 16 feet, total distance 24 feet. Lode 4 feet wide, assays 13 dwts. 18 grains. The 700 south has been driven 5 feet 6 inches, total distance 6 feet 6 inches. Lode 1 foot wide, assays 6 dwts. 6 grains.—The vertical shaft has been sunk 4 feet 9 inches, total depth 202 feet 3 inches below surface.—Main shaft. The 1080 No. 1 north has been put up 74 feet 6 inches, and has communicated with the 1000. The crosscut east from No. 1 rise has been extended 10 feet 3 inches, total distance 20 feet 3 inches. Nothing further having been met with this crosscut has been suspended. In two stopes in the back of the 1000 north the lode averages 5 feet in width and 2 ounces 3 dwts. 3 grains in assay value. The lode in the stope in the back of the 920 north is 6 feet wide, as assays 12 dwts. 11 grains. In the stope in the bottom of the 920 south the lode is 3 feet wide and assays 1 ounce; and in the 920 south back stope it is 6 feet assaying 10 dwts. The 880 north has been driven 4 feet, total distance 29 feet 6 inches from the crosscut west 619 feet 6 inches from the shaft. lode consisting of stringers of quartz assays a trace of gold. The 600 north (on Kennedy's lode) has been driven 9 feet 3 inches, total distance from the crosscut east 53 feet 3 inches. The lode is of no assay value. The 520 south (on Kennedy's lode) has been driven 14 feet 3 inches, total distance 69 feet 9 inches. Lode of no assay value. The 370 north has been driven 17 feet, total distance 323 feet. Lode assays a trace of gold.—Taylor's shaft. The 1240 north has been driven 13 feet 6 inches, total distance 372 feet 6 inches. Lode 1 foot 6 inches wide, assays 1 dwt. 6 grains. The lode in the stope in the back of the 1160 north is 1 foot 6 inches wide, and assays 8 dwts. 18 grains. In the stope in the back of the 1080 north the lode is 1 foot wide, and assays 12 dwts. of gold per ton. A rise has been commenced in the back of the 1080 south, and has been put up 2 feet. The lode 1 foot 6 inches wide, assays 8 dwts. In the stope in the back of the 1000 north the lode is 3 feet wide, and assays 6 dwts. 6 grains. The 920 south on branch has been driven 2 feet, total distance 18 feet 9 inches. The branch having become of no assay value, this drivage has been suspended. The lode in two stopes in the back of the 920 north averages 3 feet in width and 17 dwts. 12 grains in assay value. In two stopes in the back of the 840 north the lode averages 3 feet 3 inches in width and 6 dwts. 21 grains in assay value. The lode in the stope in the back of the 680 north is 2 feet 6 inches wide, and assays 7 dwts. 12 grains. In the stope in the back of the 450 north the lode is 2 feet 6 inches wide and assays 5 dwts.—No. 1 trial shaft. The 110 feet level south has been driven 14 feet 6 inches, total distance 37 feet 6 inches. Lode 1 foot wide, assays a trace of gold.—No. 2 trial shaft. The 80 feet crosscut west has been extended 22 feet, total distance 80 feet. The crosscut is still in lode matter, which is of no assay value.—Old mill samples. Pulp 1 ounce, tailings 3 dwts. 18 grains.—New mill samples. Pulp 1 ounce 2 dwts. 12 grains, tailings 4 dwts.

YERRAKONDA.—Fortnightly report of Captain M. Scantlebury, mines agent, dated October 14:—South shaft. The 350 feet level south has been extended 17 feet, now 122 feet from shaft. The quartz is 3 feet wide, assaying 1 dwt. 20 grains of gold to the ton. Crosscut west of 350 feet level north has been extended 17 feet 6 inches, now 66 feet 6 inches from level. 255 feet level north has been advanced 4 feet, now 324 feet 6 inches from shaft. The lode is ordered and pinched to a mere trace. This is suspended.

A NEW MAP.—We have this week received a well-executed and important Map of the Diamond Mines of Griqualand West, compiled by Mr. A. Sedgwick Wooley, Government Surveyor of Kimberley. This map gives the official numbers of all claims and shows all properties and mines, including De Beers Consolidated, Bultfontein, Phœnix, Leicester, Newlands, Washington, Borrells, Victoria, Wrigley's Kopje, Russel, Pole, Kimberley, Premier, Belgravia, London and South African Exploration Company, Vaal River Estate Company, Windsorton Commonage, Barkly Commonage, &c.

SUNDERLAND AND ITS COAL TRADE.—The River Wear Commissioners have this week adopted an important recommendation of the traffic committee. It was to provide at a cost of about £40,000, for the improvement of the coal shipping places, and the provision of a new high level coal staith suitable for the large type of steamers that now use the docks.

METAL TRADE STATISTICS.

OCTOBER, 1896.

COPPER.

(From Messrs. Henry R. Merton and Co.'s Circular for October, 1896.)

	Oct. 31, 1896.	Oct. 15, 1896.	Sept. 30, 1896.	31st October. 1895.	1894.	1893.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
STOCKS IN ENGLAND AND FRANCE:—						
Liverpool and Swansea, Chili Bars	24,339	24,138	24,333	31,308	35,329	29,054
" " Chili Ingots	167	169	171	351	818	100
" " Chili Ores and Regulus (fine)	27	27	—	2	37	611
" " Other Stuff (fine)	*3,397	3,247	3,343	3,673	6,582	5,310
London (including landing)	2,036	1,944	1,573	2,468	5,320	4,799
Stocks of fine Copper in Havre, Rouen, Bordeaux and Dunkirk	1,378	1,002	1,166	1,171	972	4,116
	31,341	30,427	30,589	46,983	49,038	43,990
ADVISED FROM CHILI by Mail and Cable, Fine Copper	2,900	2,400	2,400	2,500	2,850	3,150
" " Australia, by Mail and Cable, Fine Copper	1,200	1,250	1,100	900	900	900
	34,441	34,077	34,089	50,383	52,788	48,040
Price of Chili Bars and G.M.B.'s per ton	£47 17 6	£46 15 0	£47 15 0	£45 2 6	£40 15 0	£42 2 6

* Including 950 tons English Cakes.

COMPARATIVE STATEMENT.

Month ending	Stock in England and France and Afloat thereto from Chili and Australia.	Price of G.M.B.	Supplies: England and France.	Other European Ports.	England & France from Spain and Portugal (excluding Pyrites).	England & France from Other Countries.	Charters from Chili to Europe.	Shipments from Australia to London.	Total Supplies.	Total Deliveries.
	Tons.		From N. America. Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
31st October 1896	35,441	£47 17 6	4,949	6,096	1,48.	2,297	1,850	900	17,372	16,020
30th September "	34,789	47 15 0	3,916	6,327	1,267	2,108	2,150	700	16,468	17,753
3 st August "	35,374	47 2 6	4,407	6,759	943	3,752	2,150	1100	19,111	17,936
31st July "	34,199	48 10 0	3,729	7,496	1,910	2,002	1,650	800	17,387	19,467
30th June "	36,279	49 2 6	3,730	6,232	852	1,269	2,150	550	14,503	15,425
31st May "	36,901	47 6 3	4,560	6,07.	1,2?7	880	1,800	1400	16,267	17,812
30th April "	38,448	45 7 6	4,173	5,802	919	3,632	2,050	850	17,426	18,960
31st March "	39,980	44 17 6	3,031	6,593	1,116	3,844	2,250	600	17,434	20,935
29th February "	43,481	46 10 0	4,377	5,9.9	953	812	1,700	700	12,441	15,088
31st January "	46,128	43 17 6	3,173	4,456	1,339	3,181	2,100	850	15,639	15,328
31st December 1895	45,817	41 2 6	2,807	4,919	2,036	2,401	1,800	650	14,613	14,527
30th November "	46,751	43 2 6	1,805	3,063	1,334	1,617	1,450	900	10,175	14,827
			45,497	67,738	15,388	27,815	22,900	9,800	189,136	204,078
31st October 1895	50,387	45 2 6	923	2,850	1,386	2,960	2,300	700	11,119	13,579
30th September "	52,843	46 7 6	804	3,301	837	1,379	1,500	650	8,471	11,060
31st August "	55,432	47 0 0	590	3,903	912	2,282	1,800	750	10,237	12,822
31st July "	57,817	45 7 6	2,469	3,627	1,387	2,504	1,700	500	12,177	12,502
30th June "	58,182	42 7 6	2,128	6,472	1,775	6,574	2,100	600	19,949	15,978
31st May "	54,2.1	43 0 0	2,015	3,415	442	703	2,300	500	19,675	9,703
30th April "	54,739	40 17 6	1,698	4,089	2,318	1,611	2,700	700	13,006	2,162
31st March "	53,335	39 5 0	1,636	2,278	1,151	2,991	1,250	850	10,156	12,011
28th February "	55,190	39 0 0	2,420	1,020	1,542	1,519	1,550	650	8,711	18,369
31st January "	54,848	40 6 0	4,686	3,617	773	2,424	1,650	750	12,900	12,636
31st December 1894	54,684	41 0 0	3,839	2,954	1,696	2,366	2,300	650	13,745	11,376
30th November "	52,295	39 15 0	2,103	2,682	1,535	1,235	1,250	500	9,305	9,798
			25,111	39,188	15,594	28,946	22,400	8,150	129,391	141,796
31st October 1894	52,788	40 15 0	2,869	1,231	1,334	1,088	1,850	600	8,972	8,218
30th September "	52,034	41 10 0	1,806	5,28.	909	1,573	1,500	450	11,525	11,898
31st August "	52,407	40 7 6	3,028	3,382	1,494	3,973	2,000	550	14,425	13,343
31st July "	51,325	38 2 6	3,455	3,710	1,409	1,816	1,800	950	12,600	11,347
30th June "	50,072	38 5 0	2,726	4,250	898	3,522	2,300	850	14,306	11,814
31st May "	47,580	38 17 6	2,778	3,362	1,976	3,023	1,850	550	13,539	12,765
30th April "	46,806	39 17 6	3,559	3,226	1,057	2,977	1,650	600	12,669	13,460
31st March "	46,597	40 15 0	2,546	4,591	1,184	1,899	1,500	550	12,070	12,837
28th February "	47,384	41 0 0	3,152	2,392	647	764	1,950	550	9,501	9,282
31st January "	47,152	41 5 0	4,922	2,796	1,477	890	1,350	500	11,934	12,077
31st December 1893	47,295	42 15 0	3,848	4,445	1,657	852	2,700	500	14,052	13,564
30th November "	46,847	43 0 0	6,146	1,675	1,332	5,584	1,400	450	16,667	17,960
			40,878	41,007	15,184	27,891	21,250	6,900	153,360	148,512

TIN.

(From Messrs. A. Strauss and Co.'s Circular for October, 1896.)

	Sept. 30, 1896.	Oct. 31, 1896.	Oct. 31, 1895.	Oct. 31, 1894.
	Tons	Tons.	Tons.	Tons.
Straits and Australian spot	15,680	15,432	11,840	8,977
Ditto ditto landing	725	234	725	1,498
Straits, afloat	5,775	5,025	3,150	2,175
Australian, afloat	442	516	645	777
	23,022	22,227	16,460	13,963
Banca, on Warrants	2,536	1,536	1,357	894
Billiton, spot	1,362	1,121	1,741	1,261
Ditto afloat	950	1,360	1,730	1,240
Straits, spot in Holland	857	1,016	512	590
Ditto afloat to Continent	1,373	1,175	825	1,453
Stored secretly in Holland in 1894	807	807	2,000	2,750
	31,509	29,252	24,125	21,978
Total afloat for United States	2,755	2,375	2,415	1,575
Estimated stock in America	390	1,050	5,430	3,045
Total	34,654	32,677	31,970	26,598
Prices of Straits and Australian	£57 15 0	£58 15 0	£56 12 6	£53 7 6
Deliveries during the month in London	1,268	1,890	1,674	1,571
Ditto ditto Holland	808	1,293	795	1,005
	2,076	3,183	2,469	2,576

Shipments during the month from Straits to London ... ... 1,450 Tons
" " " Australia to London ... ... 300 "
" " " London, Havre, and Holland to America ... 1,250 "
" " " Straits to America ... ... 850 "
" " " Australia to America ... ... — "
" " " Straits to Continent ... ... 1,150 "

	During 12 months ending Oct. 31, 1896.	During 12 months ending Oct. 31, 1895	During 12 months ending Oct. 31, 1894	During 12 months ending Oct. 31, 1893	During 12 months ending Oct. 31, 1892.
Shipments from Straits to London	24,187	28,727	27,002	25,640	18,758
Shipments from Straits to America	11,875	6,315	5,250	5,750	5,775
Shipments from Straits to Continent	12,338	11,912	12,403	8,118	5,023
Ditto from Straits to Europe and America	48,417	46,954	45,465	39,508	4,125
Shipments from Australia to London	3,550	3,441	4,319	4,142	752
Shipments from Australia to America	750	800	950	900	14,791
Deliveries of Tin in London	18,854	18,992	18,607	17,791	13,051
Deliveries of Tin in London and Holland	30,940	25,966	26,987	25,430	19,451
Ditto in London, Holland, France, and U.S.	51,361	55,802	53,885	53,850	

Banca in Trading Company's hands and afloat 6460 tons.

PRICES: Straits and Australian spot ... ... £58 15 0 three months ... £59 17 0
English Common Ingots ... ... 62 10 0 refined 69 10 0
Banca ... ... 59 5 0 Billiton 59 0 0

METAL CIRCULARS.

MESSRS. HENRY BATH and SON'S Copper Report, dated November 3, 96, states:—The Chili Charters for the past fortnight are advised as 1000 tons. The latest exchange is 17¼d. The business has again been on a somewhat smaller scale, but prices have steadily improved, reaching £48 2s. 6d. and £48 13s. 9d. three months by the 27th ultimo. On the 29th ultimo £47 18s. 9d. was touched for cash, but yesterday up to £48 9s. was paid, though at the close prices were back to £48 1s. 3d. cash and £48 13s. 9d. three months. This morning with active business prices improved to £48 6s. 3d. to £48 7s. 6d. cash and £48 18s. 9d. forward. The New York quotation for Lake copper is 10⅞ to 11 cents. The shipments for the fortnight are 5279 tons, making 11,827 tons for the month. On the eve of the Presidential election in the United States it is unnecessary to do more than note the fact that a very large proportion of the fortnight's business has been in the shape of option to cancel purchases if Mr. Bryan be elected, a premium of 1s. 6d. to 12s. 6d. per ton on the three months price being freely paid. Taken in connection with what we have so often pointed out in previous circulars this speaks for itself, and in the meantime the temporary increase in stocks and visible supply goes for little. The arrivals and deliveries at Hamburg, Rotterdam, and Antwerp during the past fortnight amount to about 2460 tons. The imports of American copper into England have been 2101 tons and into France 350 tons or 2451 tons against 388 tons last year. During the month 351 tons of Chili and 90 tons of Japanese copper have been transferred from French to English warehouses. Total actual deliveries for the fortnight have been 4427 tons against 5341 tons imports. The stocks have increased 914 tons. 125 tons of English copper have been received and 50 tons delivered at Liverpool and Swansea during the fortnight. Total visible supply shows 35,441 tons against 34,077 tons last fortnight.

	Imports.	D'liv'r's.	Stocks.	Afloat & Charter'd.	Total visible supply.
England and France.					
Mill copper at Liverpool, Swansea, and in France	500	283	25,147	2,900	28,047
Foreign copper in London, chiefly Australian and Japanese	588	458	1,837	1,200	3,087
American copper at Liverpool, London, and Swansea	2,101	2,087	1,783	—	1,783
Other copper at Liverpool and Swansea	1,574	1,449	813	—	813
English copper at Liverpool and Swansea	125	50	950	—	950
American copper in France	350	75	552	—	552
Other copper in France	105	20	209	—	209
Tons fine copper during the fortnight	5,341	4,427	31,341	4,100	35,441
Against tons on Oct. 17, 1896	5,275	5,437	30,427	3,650	34,077
Against tons on Oct. 2, 1896	5,254	5,734	30,589	3,500	34,089

	1895.	1894.	1893.	1892.	1891.
Total visible supply, Nov. 2	50,383	52,782	48,040	55,528	61,438
Price of Chili bars same date	£45 2/6	£40 7/6	£42 6/3	£45 10	£46 2/6
	Tons fine. 1890.	Tons fine. 1895.	Tons fine. 1894.	Tons fine. 1893.	Tons fine. 1892.
Imports from Chili and Bolivia [sic]	18,036	18,328	17,522	16,688	16,813
Imports from America from January 1 to date	40,798	21,334	35,322	40,759	25,754

The shipments to Europe from America from January 1 to date are 98,250 tons, against 51,109 for corresponding period last year.

The shipments afloat from America are estimated at 2530 tons.

Supply of West Coast Copper may be estimated from the following figures:—

	Tons.
Actual stocks at Swansea, Liverpool, and in France	25,147
Afloat and chartered for at date of last advices per mail and cablegram	2,900
Total	28,047 against 27,335 tons Oct. 17, 1896.

Against same date 1895, stock 40,406 afloat &c., 2500=42,906 tons
" " 1894 " 36,521 " 2850=39,371 "
" " 1893 " 31,965 " 3150=35,115 "
" " 1892 " 33,536 " 2500=36,036 "

Quotations for West Coast copper are as follows:—

	To-day.	Nov. 2, 1895.	Nov. 2, 1894.	Nov. 2, 1893.	Nov. 2, 1892.
Ores	9/ to 10/	8/10⅛	7/9	8/1⅛	8/10⅛
Regulus	£48 8/3 to £48 7/6	£45 2/6	£40 7/6	£42 6/3	£45 10/
Ingots, Uncertain	Nom.	Nom.	Nom.	£45 10/	£49 10/
Precipitate	about 9/6 to 10/3	about 9/4⅛	about 8/4⅛	about 8/7½	9/4½

For other descriptions we quote to-day:—Wallaroo nominal. Burra Burra nominal. Best selected about £51 to £52, English tough about £50 10s. to £51 5s. English manufactured about £58. India sheets about £54 to £54 10s. G.M.B. copper £48 2s. 3d. to £48 7s. 6d. cash, and £48 18s. 9d. to £49 three months. Sulphate of copper about £16 15s. to £17 cash and forward. Tin native, closing at £59 5s. cash, £59 three months. Spelter irregular. £17 to £17 1s. 3d. English about £17 12s. 6d. Blende of 50 per cent. is worth about £6 5s. 6d., and calamine about £4 6s. Lead £11 5s. to £11 7s. 6d. With silver 20 to 30 ounces about £11 10s. Lead ore of 70 per cent. is worth about £5 per ton.—Pig Iron. Closing quotations for Scotch pigs are 48s. 1d., Middlesbrough 43s. 11d., hematite 50s. 1d. cash. Antimony quiet. Star regulus about £29 10s. to £30. Ore £7 15s. to £8 for 50 per cent. good quality and produce. Crude about £15 10s. per ton.—Quicksilver. Official price £9 12s. 6d. Seconds quiet at 1s. less.—Bar silver. 30½d. per ounce standard.—Discount. The Bank rate was raised from 3 to 4 per cent. on October 22.

MESSRS. JAMES LEWIS and SON'S monthly report on ores and metals, dated Liverpool, November 2, has the following:—Copper in the early part of last month declined in sympathy with the sharp fall in the value of tin, but has since benefited from the important advance in the value of iron. From £47 15s. on the 1st ult., good merchantable copper fell to £46 13s. 9d. on the 15th, but recovered to £48 2s. 6d. on the 23rd, and has since remained steady between this price and £47 13s. 9d., closing at £48, on increased firmness of the American market, combined with reduced offerings from New York. The contango for three months' prompt has widened to 12s. 6d. per ton, and a large business has been done at a further premium of 7s. 6d. to 11s. 6d. per ton with the option to the buyers of cancelling the contracts should Mr. Bryan be elected President of the United States. Should the election result in favour of Mr. McKinley—especially if his majority is a large one—an active demand for home consumption is expected to follow, largely reducing exports to Europe, and entailing further inroads upon the already small stocks held in Europe, where the consumption continues on an exceptional scale. The demand for English refined copper shows a marked improvement. The stocks in the railway warehouses at Birmingham, which a few months ago amounted to nearly 3000 tons, are now almost entirely cleared off, and but little American copper is now offered for sale. As a consequence, the margin between G.M. copper and best selected has widened from £2 15s. to £4 5s. per ton, the effect of which will appear in increased deliveries of Chili and American bars from public stocks. The official quotation of the London Metal Exchange for best selected is £50 15s. to £51 15s. per ton, which represents the value free on rails and at smelter's works and without commission. Sales have been made delivered Birmingham on the usual terms at £52 5s. per ton for ordinary quality. On the 23rd ult., the sale of 1200 tons tough cake at £50 at the works by the Rio Tinto Company was reported. Orders for 450 tons telephone wire have been placed the last few days. Lake copper is now quoted in New York 10¹⁄₁₆ cents per lb. Exceptional activity has characterised the iron and steel trade during the past month, resulting in a material advance in values. On the Clyde the orders given for ships to be built are unprecedented (freights having improved about 50 per cent. in consequence of the sharp rise in the value of wheat), and are estimated to amount to from 180,000 to 200,000 tons, the total tonnage launched for the past 10 months being 309,091 against 291,364 in the same period of last year and 278,123 of 1894. On the East Coast, it is believed that equally large orders have been placed; while it is stated that the principal shipbuilding firm at Belfast have enough contracts on hand to last them for the next two years. Marine and locomotive engineers in Scotland are likewise exceedingly busy, and have secured important orders. American shipments to Europe for October are 10,743 tons, making the total to date this year 99,343 tons, against 82,838 tons in the same period last year. Imports are 21,371 tons and deliveries 29,669 tons greater to date than during the same period last year. The total arrivals in England and France for the month have been 17,117 tons, and the deliveries 15,365 tons fine. Stocks have increased 752 tons, and the visible supply 1302 tons. The arrivals in England from Chili during the month have been 1212, and the deliveries 1193 tons fine, and from other countries 6778 and 6724 tons fine respectively. The arrivals here and in Swansea from the United States have been 1245 tons bars, 1098 tons ingots, and 1287 tons matte, equal to about 3633 tons fine copper, in London 611, and in France 730 tons fine. The Chili charters for the month are advised as 1450 tons, and Exchange 17⅛d. Quotations to-day are:—Chili bars and good merchantable copper £48 for cash, and £48 12s. 6d. for three months' prompt buyers. English best selected ingots £52 5s. to £53 15s., and tough cake £50 15s. to £51 5s. per ton. 9s. 3d. for ore of 20 per cent., and 9s. 7½d. per unit for Chili regulus or American matte, free from silver.

Chili exports to October 31 are:—

	Tons fine. 1893.	Tons fine. 1894.	Tons fine. 1895.	Tons fine. 1896.
Exported to August 31	13,467	14,401	15,295	15,991
Loading on "	65	—	—	—
Cleared to October 31	3,692	3,367	3,777	3,600
	17,244	17,768	18,872	19,591

P.S., November 4.—The reported election of Mr. M'Kinley to the Presidency of the United States by a large majority of votes induced an active market this morning, about 1400 tons of G.M. copper selling at £49 to £48 18s. 9d. for cash and £48 12s. 6d. to £49 11s. 3d. for three months' prompt.

Spot, 97s. 10½d. per ounce standard. Silver fell from 30⅝d. to 29¾d. on the 12th, and after fluctuations closed at 30⅜d. per ounce standard. Quicksilver from second hands is quoted at £8 11s. 8d. per bottle. Sulphate of copper is selling freely at £16 15s. per ton, less 5 per cent., for delivery next year. Several thousand tons have been sold. Lead is firm at £11 10s. per ton for English, soft Spanish £11 8s. 3d., rich in silver £ 1 11s. 3d., ore of 70 per cent. £4 14s. 6d. per ton and fine silver value. Antimony steady at £28 10s. to £29 per ton. Nickel quoted at 1s. 1d. to 1s. 2d. per lb. net. Tin fell to £56, but has since recovered to £59 per ton. Bank rate of discount was advanced to 4 per cent. on the 22nd ult.

MESSRS. HARRINGTON and Co.'s Copper Report, dated Liverpool, November 2, says:—Chili charters for the second half of October are advised as 1000 tons, against 650 tons for the previous fortnight, making 1650 tons for the month. The total since December 31 last is 19,650 tons, and the quantity same time last year was 18,850 tons. Exchange 17¼d. Since our last issue about 14,000 tons G.M.B.'s have changed hands at from £46 17s. 6d. to £48 6s. 3d. cash, and £47 8s. 9d. to £48 17s. 6d. three months' prompt. From the beginning of the fortnight up to now a healthier tone has prevailed all round. Consumers have been buying, "bears" have been covering, and speculators for a rise (which seems assured in the event of Mr. McKinley being elected President of the United States) have been operating pretty freely, and a large business has also been done in three months at a premium of about 10s. to 12s. 6d above the ordinary three months' prices, buyers having the option to cancel in the event of Mr. Bryan being returned for the Presidency. The advance in the Bank rate to 4 per cent. on the 22nd seemed to give more confidence and quite stimulated speculation. Best selected ingot copper appears to be rather scarce, and we understand that stocks in Birmingham are very low and consumers short of supplies. The demand from India, meanwhile, is very quiet, and there is very little doing for that market. To-day's market, after having advanced to £48 8s. 3d. cash and £48 17s. 6d. forward, closes easier at £48 1s. 3d. and £48 13s. 9d. respectively. With the exception of one or two small lots there has been no American copper offering during the past fortnight probably with view to a favourable result of the Presidential election, in which all attention is now centred. The last quotation of Lake copper was 10·75 to 10·87½ cents. The total stocks in Liverpool, Swansea, London, and Havre are 31,341 tons, against 30,427 tons on the 16th ult., showing an increase of 714 tons for the fortnight, but with a decrease for the previous fortnight of 162 tons, makes an increase for the month of 752 tons. The stocks include about 700 tons of copper sold, but not yet delivered to smelters, and a further 151 tons of bars transferred from the Havre stock. The visible supply for the fortnight is 35,441 tons, against 34,234 tons on the 16th ult., showing an increase of 1207 tons. The month's figures show an increase of 1302 tons. Refined and manufactured sorts are steady, quotations being tough cake £50 10s. to £51, best select £50 15s. to £51 15s., Indian sheets £55, strong sheets £58, and yellow metal sheets 4⅞d. per lb. No sales of furnace material reported.

	Tons fine.		Tons fine.	
Imports of Chili copper during the past fortnight	571	against	509	same time last year.
Delivery of Chili copper during the past fortnight	373	"	1415	" " " "
Import of other copper during the past fortnight	3459	"	1324	" " " "
Delivery of other copper during the past fortnight	3299	"	1976	" " " "

The total imports of Chili and other copper into Liverpool and Swansea since January 1 have been 69,559 tons; deliveries during the same period 82,120 tons fine; for same time last year the figures were 55,004 and 56,013 respectively.

Quotations are:—	To-day.	Oct. 16, 1896.
Chili bars	£48 1s. 3d. cash and £48 13s. 9d. 3 months	£47 2s. 6d. cash and £47 12s. 6d. 3 months.
" ore	9s. 6d. to 9s. 9d.	9s. to 9s. 6d.
" regulus or matte		
Precipitate	9s. 9d.	9s. 6d. to 9s. 9d.

Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at:—

	Ores.	Regulus.	Bars.	Ingots.
Liverpool	138	—	23,966	167
Swansea	—	—	372	—
	138	—	24,338	167

	Tons fine.		Tons.		Price of cash bars.
Representing about	24,532	copper, against	24,334	Oct. 16, 1896.	£47 2 6
against	39,761	" "	"	Nov. 1, 1895.	45 2 6
"	36,184	" "	"	2, 1894.	40 5 3
"	29,765	" "	"	2, 1893.	42 6 3

	Tons fine.		Tons.	
Stock of other copper contained in matte, G.M.B, foreign ore, and Spanish precipitate	3,397	against	3,247	Oct. 16, 1896.
		"	3,673	Nov. 1, 1895.
Stock of Chili bars, ingots, and Barilla in Havre, including Rouen & Dunkirk	1,376	"	735	"
Stock of copper other than Chili in Havre and Dunkirk		"	436	"
Stock of Chili copper afloat and chartered for to date		2,900	"	2,367 "
Stock of foreign copper in London		2,036	"	2,468 "

Tin.—Since our last the market for cash Straits has been firmer, and prices have advanced from £57 3s. 9d. to £59 5s., closing steady to-day at £59, Australian £60 15s., English £33, and Peruvian £48 to £56, according to quality.—Sulphate of copper. Makers' price £16 10s. spot and £17 forward. Lead during the past fortnight has been firm, and closes steady at £11 5s. to £11 6s. 3d. for Spanish, and £11 10s. for English.—Spelter. The market since our last has been firmer, closing easier at £17 to £17 1s. 3d. for ordinary Silesian brands.—Quicksilver. Since our last the market has been steady at £8 11s. 6d. per bottle for Spanish.—Bar silver. Prices have fluctuated between 29¹³⁄₁₆d. and 30¼d., closing to-day at 30⅛d. per ounce standard.—Antimony dull, Star regulus at £28 10s. to £29 10s. per ton. Ore irregular, about £7 15s. for 50 per cent. good quality and produce. Bank rate of discount advanced to 4 per cent. on the 22nd ult.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes November 5:—The Mining Market has improved on the favourable result of the Straits statistics of tin for the past month, showing a reduction of nearly 2000 tons, shares being firmly held with an absence of sellers. Quotations:—Basset United (Limited), 17s. to 18s. 6d.; ditto (5s. paid), 4s. 6d. to 5s.; Blue Hills, 4s. to 5s.; Carn Brea United (Limited), 2s. to 2s. 6d.; Devon Consols, 17s. to 18s. 6d.; Dolcoath (Limited), 17s. to 18s.; ditto (7s. 6d. paid), 5s. 6d. to 6s.; East Pool, 1 to 1⅛; Killifreth (Limited), 1s. 6d. to 2s.; Levant, 2¾ to 3; West Kitty, 2¼ to 2½; Wheal Grenville, 4¾ to 5; Wheal Kitty, 4s. to 5s.; Wheal Metal, 3s. to 3s. 6d.

Messrs. ABBOTT and WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of November 5:—There has been a little more business in shares this week, and, on the whole, prices are a shade higher, but it is still very difficult to do business at quoted prices. There are several orders on the market that cannot be executed. A small move in tin would be followed by much higher prices for shares. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset Mines (fully paid), 17s. to 18s.; ditto (5s. paid), 4s. to 5s.; Dolcoath (fully paid), 16s. to 18s.; ditto (7s. 6d. paid), 4s. 6d. to 5s. 6d.; East Pool, ¾ to 1⅛; Killifreth, ¾ to ⅞; Polberro, ½ to ¾; West Kitty, 2¼ to 2⅜; Wheal Grenville, 4½ to 4⅝; Wheal Kitty, ½ to ¾; Wheal Metal (3s. paid), 3s. 6d. to 4s.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write November 5 (12 noon):—The past week has furnished sensations in the markets such as have not been experienced since the Venezuelan affair of last December. It is again in the American railways market that the most prominent sensation has been provided. During the past few weeks prices have been tending upwards in anticipation of the return of Mr. McKinley as President of the United States, and during that time some notable advances in figures have been made. These advances, however, were, so far as the most active stocks are concerned, far surpassed by the advance marked on Wednesday morning, this occurring after closed days in London on Monday and New York on Tuesday. Considering the width of the margin in changes on the week, which, though most pronounced in Americans, has extended to all classes of rails, we prefer to turn to daily changes which are as under. Markets other than rails are not sufficiently distinct in their variations to necessitate doing more than referring to the details given below. On Friday last home rails were "sluggish." Americans with prices on the downward side where moved at all. In Canadians Trunk issues a little easier, Americans, after a poor beggining, mended as the day went on, down to a firm finish. On Saturday the tone of the whole market was better, Americans especially gaining ground. Monday was not a very active day, but prices tended in the upward directions in most cases. New York sent better figures, but with the previous day's holiday here, parity from the other side was hardly reached, still figures herein were in many cases fairly above the closing on Saturday. Yesterday, in view of the success of Mr. McKinley on the polls in America, Yankee prices were rampant, bringing in very high figures at the starting over here. Transactions in this market, as well as in Canadians, were very numerous. First and best figures, however, were by no means maintained throughout the day in Americans. Grand Trunk of Canada issues, however, closed above the best, as, besides the rise in Americans, their last statement was taken to be encouraging. In home rails the improvement already noticed was communicated, and some decent advance was marked, which was held up to the finish of business. This morning's opening prices are but little guide, as being mostly nominal pending movements to follow recent fluctuations, so we leave remarks herein to our 4 p.m note.

ENGLISH RAILS.—Higher: Caledonians, 2 to 3; ditto Deferred 1½; Great Eastern, 1⅜; Yorkshire deferred, ½ to ¾; Brighton A, 1; Chathams, ⅛; London and North Western, 1½; Sarar, ½; Midlands, 1; North British, 1⅛; Berwicks, 2¼; Dover A, 1.—Lower: Metropolitan Districts, ¼.

CANADIANS AND AMERICANS.—Higher: Atchison Ordinary, 3⅜; ditto Preference, 5½; Canadian Pacifics, 1⅝; Trunk Ordinary, ½; ditto Guaranteed, 3; ditto First Preference, 2½; ditto Second Preference, 1⅝; ditto Third Preference, 1; Mexican Rails, ⅛ to ⅜; Central Pacifics, 2; Milwaukees, 7½; Denvers, 1½; ditto Preference, 3½; Louisvilles, 5½; New York Centrals, 4; Eries, 2½; Ontarios, 2⅜; Norfolk Preference, 2½; Readings, 2⅜; Union Pacifics, 3¾.

CONSOLS.—Higher: Two and Three-Quarter per Cent., 11-16.

COLONIAL STOCKS, &C.—Higher: New Zealand Inscribed, 1; New South Wales Inscribed, 1.

CORPORATION STOCKS AND DEBENTURES.—Higher: Manchester Three per Cent., ½.—Lower: Hull Three and a-Half per Cent., 3; Newcastle Three and a-Half per Cent., 1.

FOREIGNERS.—Lower: Argentine Six per Cent., ½; ditto Five per Cent., ½; Brazilian Four and a-Half per Cent., 1; Portuguese Three per Cent., ⅜; Spanish Four per Cent., ⅞; Turks, 1891, 1; ditto, D, ⅛.

BANKS.—Higher: Bank of Liverpool, ½; Imperial Ottoman, ⅜ to ½; Imperial of Persia, ½; National Provincial, ½.

INSURANCE.—Higher: Boiler Insurance and Steam Power, ½; British and Foreign Marine, ½; Liverpool, London, and Globe, ½; Palatine, 1-16.—Lower: Commercial Union, ½; Ocean Marine, ½.

COAL, IRON, &C.—Higher: Bolckow Vaughan (£12 paid), 3-16; Ebbw Vale, 1½; Parkgates, 1; Rhymneys, 1s. 6d.; Sheepbridge A, ⅜.—Lower: Bolckow Vaughan (£20 paid), ½ to ¾.

TELEGRAPHS AND TELEPHONES. — Lower: West and Brazilian Preferred, ½.

BREWERIES.—Higher: Guinness', 20; Manchester, 1-16.—Lower: Allsopp's, 1; Parker's, ½.

MISCELLANEOUS.—Higher: Blackpool Towers, 6d.; Milner's Safe, ½; Star Paper, ½; Railway Share Trust, A, ½. — Lower: Bell's Asbestos, ½; Bradbury's, ½; Coat's, ⅜; Earle's, ½; Hetherington's ½; Hudson's Bay, ⅛; United Alkali, 1-16; Northern Assets, 1s. to 1s. 6d.

LATER (4 P.M.)—English rails have improved just a shade, the prices sent from New York being considered disappointing, still on the fall there were plenty of buyers, and closing figures are little below the best. Coal and iron shares in good demand.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (November 5), writes:—During the past week the feeling has been more hopeful, owing to the absence of disquietening political news and the success of Mr. McKinley in the United States Presidential Election.

In shares of coal, iron, and steel companies prices are generally higher. The Marbella output for October was 1027 tons. Great Eastern Collieries are at 22s., Marbella 27s. 6d., Niddrie 41s., Steel Company of Scotland 6¼.

In shares of copper concerns there is a general improvement in prices, especially Tintos, which at 25⅛ are ex dividend of 18s. Arizona have improved to 55s., and Tharsis to 119s.

In shares of gold and silver mines a moderate amount of business has been done. Prices are inclined to improve, provided forced sales from the Continent are at an end, and some satisfactory information can be given of the position and prospect of the deep levels at the approaching meeting of the Consolidated Gold Fields on November 11 The meeting of the Chartered Company to-morrow will also be waited with interest. One of the leading movements of the week has been the collapse of African Recovery shares from 52s. to 18s., now 21s. 6d., on the announcement that the case had been decided against the company in the Transvaal law courts. Bayley's No. 2 South offered. Afrikander are at 26s. 3d.; African Estates, 27s. 6d.; American Belle, 6d.; Broken Hill, 48s.; Bantjes, 52s. 6d.; Balkis Land, 4s. 9d.; Central Exploration, W.A., 11s. 3d.; Cassel, 12s.; Croydon Consols, 10s. 3d.; Crœsus North No. 1, 22s. 6d.; East Rand, 87s. 6d.; Emma, 1s. 3d.; East Sheba Reefs, 2s.; Faith, 9s. 9d.; Frontino, 31s. 3d.; Florence, 17s. 6d.; Golden Crown, 35s.; Great Boulder Main Reefs, 22s. 6d.; Golden Ridge, 11s.; Ginsberg, 38s. 9d.; Glenrock, 1s.; Gold Fields of Mozambique, 25s. 6d.; Hainault, 20s.; Hannan's Star, 20s.; Kapanga, 10s. 6d.; Klerksdorp, 8s. 6d.; London and Globe Deferred, 6¼; London and Continental Investment, 6⅜; Lisbon, 5s. 3d.; Lady Shenton, 42s. 6d.; Leechdale, 4s. 6d.; Mount Charlotte, 20s.; Mount Margaret, 30s.; Murchison Gift, 2s. 3d.; Mosman, 2s. 9d.; New Queen, 7s. 6d.; Central Boulder, 14s. 6d.; North Croydon, 3s. 9d.; Oceana Development, 9s. 3d.; Paddington, 2s. 9d.; Port Phillip, 1s. 3d.; Pearl Central, 22s.; Preece's Point, 3s. 9d.; Randt, 5s.; Rhodesia (Limited), 22s. 3d.; Royal Oak, 2s. 9d.; Rothery Block, 6s. 6d.; Sheba Queen, 6s. 3d.; South Luipaard's Viei, 9d; Sherlaw's, 9s. 6d.; Torva, 19s.; Triumph Hauraki, 2s. 3d.; Violet, 18s.; White Feather Main Reefs, 7s. 6d.; West Australian Trading Corporation, 9s. 6d.; ditto founders' shares, £19.

In shares of miscellaneous companies there is not much alteration to notice. Oil companies shares firmer, Broxburn being at 9⅜, Pumpherston, 6¼; and Young's, 28s. 6d. Field's Candle Six per Cent. Preference are at 11¼, Lawes Chemical, 6¼. Nobel's Dynamite have improved to 18⅜.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of November 5:—The defeat of the Bryanites in America was followed by great activity in the stock markets. Prices, which had begun to advance in anticipation of the event, on its realisation became buoyant, Americans in particular moving up very quickly. The leading Scottish Railway Ordinary Stocks have also been influenced by the prospects of good trade in the West. Caledonian Deferred has risen, since last week's report, from 58½ to 60¼, North British from 46½ to 48¼. Canadians have been benefited by good traffic statements. Canadian Pacific and Grand Trunk Guaranteed and Preferences have all made a substantial advance. In Insurance shares, Life Association have declined 5s., National Guaranteed 3s. Globes, Mercantiles, and Royal are all somewhat higher. Arniston coal shares have risen from 19 to 20, Lothian Coal Preference from 8¼ to 8¾, Steel Company of Scotland from 6 to 6 5-16, Arizona Copper from 53s. 3d. to 55s. 3d., Rio Tinto from 24⅛ to 25, Oakbank Oil from 5 9-16 to 6¼, Young's Paraffin from 27s. to 28s. 3d. Distillers shares have declined from 20½ to 20¼, Edinburgh United Breweries from 13 15-16 to 13⅞, J. and P. Coats from 62¾ to 61 11-16, Edinburgh Street Tramways from 66s. to 64s.

THE IRON AND STEEL MARKET.

Messrs. JOHN STEVENSON and COWPER, in their weekly report dated Middlesborough, and 52, Quayside, Newcastle-on-Tyne, Nov. 5, state:—The pig iron market is very firm locally, influenced by the result of the American Presidential Election. Warrants closed to-day—Scotch 48s. 3d., Cleveland 40s. 1d., Cumberland hematite 50s. 3d., and Middlesbrough hematite 48s. 1½d. cash buyers, with an easier business. These prices are considerably above our last quotations, but are below the best that have been touched during the present rise. Shipments continue on a large scale this

month, and although the aggregate for October was 17,000 tons short of September, still the 115,773 tons exported was 28,000 tons above the average of the last four years. Stocks in Connal's Middlesborough stores show a reduction of 9000 tons on the month. Makers' quotations are well maintained, and 40s. is the current price of No. 3. Hematite has been sold for 50s. for forward, and the rate for prompt delivery is approaching that figure. Engineering shops and rolling mills are well employed. Common bars are £5 5s., ship plates £5 10s., and angles £5 7s. 6d., usual terms. Bilbao ore continues strong, notwithstanding the reduction of freights from 8s. to 6s. 6d. per ton. Coke is very firm at recent quotations, and the increased demand for coal has caused a favourable move in manufacturing qualities after a long run of poorer prices.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

THOUGH it is impossible to speak yet of any great advance in the prices of the Cornish mine shares, there is a very obvious change in the general tone, both of the market and of those who have been discounting the chances of improvement. A very fair number of shares have changed hands quietly, and have been picked up at something above quotations by those who are anticipating that the rise will take place before the end of the year. The statistical position of tin when it became known this week had a very favourable impression, especially in view of the fact that while the Straits shipped 3500 tons for the month, deliveries were so good that the whole of that was absorbed, and 2000 tons taken from stock as well. The American Election has also been awaited with no little interest, and the return of McKinley has had the effect of instilling even more confidence in the future, because of the possibility of the commercial stability which is the result having some favourable effect on the Cornish market in common with others. The long-promised visit of Mr. Strauss, M.P., shows signs of realisation, for he is announced to speak this (Saturday) evening, and his pronouncement on the future of the tin market will be read with considerable interest.

THE most important thing of a not very lively week has been a meeting of the unfortunate Wheal Agar shareholders. What that meeting was actually convened for, except to receive the very little statement of accounts, it was difficult to say, for the executive seemed to have no suggestions as to the future, and seemed to find their only comfort in showering criticism on the action of East Pool. It is a bit too late now to shout. They have had all along the opportunity of working their sett. The lease was not even offered to East Pool until after Agar executive had definitely refused to work forthwith, so that what they have to complain of we cannot see. They cannot expect to continue that dog-in-the-manger policy which they have adopted in the past 12 months for ever, and it is a most audacious suggestion that Lord Robartes should renew to them the lease so that they might continue to hold the upper hand. They have been checkmated, and, so far as we can see, the most graceful operation they can adopt is to allow whatever machinery there is to be sold at a valuation, or, at any rate, so much of it as East Pool cares to have. It is rather amusing to hear Mr. Hattersley talk of their machinery having advanced in value enormously, in consequence of the advance in iron. Mr. Hattersley may not have noticed that Wheal Peevor and West Peevor were recently offered for sale, and even with the advance in iron there was no purchaser. It is easy to understand that the executive is reluctant to look back on the offers which they had the opportunity of accepting, and those of £4500 and £6000; they would willingly forget that those sums were ever mentioned, for the chances of ever hearing of them again are very remote. It is so obvious that there would not be the slightest chance of certain members of the two committees agreeing that it is impossible to hope yet for an amicable settlement in the shape of a general amalgamation of all the properties in that district. This is what ought to have been done long ago, and the water difficulty would then have been shelved for ever. Wheal Agar, East Pool, South Crofty, and New Cook's Kitchen would, amalgamated, make one of the finest setts to be found anywhere, and worked vigorously with fresh capital would offer chances of success second to none in the county. But the thing has gone too far apparently for Agar shareholders as such to join unless an opportunity could be given them of taking up shares. East Pool committee will be wise if they adopt some such scheme if they can get the co-operation of the large holders in all the properties affected.

THE position of the West Frances-Basset Mines affair is most unfortunate. Mr. Fortescue, the lord of the former mine, will not waive the condition he has named as to the tin being returned on the mine, and as this upsets all the calculations of the Basset directors they will probably throw the whole thing over, and West Frances shareholders will be once more thrown on their own resources.

VARIOUS rumours, all equally groundless, respecting gentlemen prominently connected with the management of Dolcoath, have recently been circulated in the neighbourhood of Camborne. Last week it was quite circumstantially stated that Captain Arthur Thomas and his brother, Mr. Fred Thomas, were about to leave for West Australia. The story was soon authoritatively contradicted, and never had the slightest foundation in fact.

ANOTHER call of 2s. 6d. per share has been made on the partly-paid shares of Dolcoath. This makes 10s. paid up, leaving nothing more to be called.

THE directors of Carn Brea and Tincroft (Limited) have ordered a call of 2s. 6d. per share. No fresh developments are reported from the mines.

GENERAL satisfaction is felt throughout West Cornwall with regard to the decision of the Great Western directors to construct the new line from Newquay *via* Perranporth and St. Agnes, with a junction with the main line near Chacewater. St. Agnes has long been handicapped by its distance from a station, and the making of a new line will be a decided benefit to the mining industry in the neighbourhood. It is to be hoped that the work will be commenced as soon as possible, as it will provide employment for some of the men who are idle through no fault of their own.

The certificates in respect of reserve shares recently allotted to shareholders in the RAND KLIPFONTEIN COMPANY (LIMITED) are now ready for delivery at the office of the company, 170-3, Winchester House, London, E.C., in exchange for the bankers' receipt.

The MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £36,478 6s. 7d.

WANTED.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line, with a minimum charge of 4s.

TIN ORE, containing several per cents. of TUNGSTEN, WANTED.
Offers to "L. 2136," care of RUDOLF MOSSE, Cologne.

SOUTH WALES MINING ENGINEER holding FIRST CLASS Cardiff Certificate. Experienced in working all Seams of Coal. Good references. Address "WILLIAM," MINING JOURNAL Office, 18, Finch Lane, London, E.C.

A PRACTICAL MINE MANAGER offers his services to TAKE CHARGE of Gold or Silver Mining Property. Experience in Assaying, Surveying, and Machinery; also speaks Spanish. Age 33. Good testimonials from late employers.
Address, "A. L. R," 47, Edward Street, Tuckingmill, Cornwall.

REQUIRED, for South America, CERTIFICATED MINING ENGINEER, with experience of Hydraulic Mining, to TAKE CHARGE of and MANAGE a Placer Mining Property.
Address, giving full references and particulars, "Z. A.," care of DAVIES and Co., Advertising Agents, Finch Lane, Cornhill.

MINING ENGINEER, now in charge of extensive Mines in Mexico, will be OPEN to APPOINTMENT shortly; many years' experience in Mining Gold, Silver, and Copper; thoroughly practical in all branches. Highest references.
Address, "ECONOMY," care of J. W. VICKERS, 5, Nicholas Lane, E.C.

ADDITIONAL WORKING CAPITAL.—A Manchester firm can INTRODUCE same into a manufacturing or mercantile concern of good repute at Bank rate. Principals only.
Address in confidence to "C. 101," care of Emmison's Advertising Offices, Manchester.

FOR SALE.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

GOLD MINE FOR SALE.

A MINING PROPERTY of 115 ACRES on the same belt as the Plumas Eureka, Plumas County, California. It has produced over $675,000, but after being idle on account of trouble with parties supplying the water, it will require a large capital (say, $100,000) to open a deeper tunnel and purchase the water supply, or utilise a fine water power some miles distant. For electric transmission, a large amount of ore will be made available by this tunnel, and the facilities for cheap working are unsurpassed.
The price is $250,000—one quarter down in cash, and the balance in one, two, or three years, with interest at 6 per cent., or other reasonable terms on the deferred payments.
For further particulars and report, apply to
W. M. COURTIS, Detroit, Mich.

GOLD MINING SHARES.

EXCEPTIONAL opportunity to PURCHASE several small lots of fully-paid SHARES at very low prices.
Full particulars upon application to "SHAREHOLDER," MINING JOURNAL Office, 18, Finch Lane, E.C.

THE VALUABLE COLLECTION OF MINERALS

MADE by the late T. A. READWIN, Esq., F.G.S., &c., added to which is a complete collection of WELSH GOLD ORES and over 300 polished AGATES and MARBLES (duplicate collection of Cardinal Antonelli's) collected by the Princess of Etruria.
Apply, "MINERALS," care of MINING JOURNAL, 18, Finch Lane, E.C.

ROCK DRILL FOR SALE.

A NEW No. 2 INGERSOLL DUPLEX ROCK DRILL for hand power operation by two men. Will bore holes for blasting purposes from 1 to 2 inches per minute.
Apply, "PORTABLE," care of MINING JOURNAL Office, 18, Finch Lane, London, E.C.

IMPORTANT.

TO BE SOLD, the Mineral Property called "DIOS TE GUIE," producing Silver and Gold, situated in the Section of Yepachi, Municipality of Famosachic, in the District Guerrero, State of Chihuahua, Mexico, by the Rascon Hermanos Company, of Nuevo Leon, Rayon District, State of Chihuahua, Mexico.
For information as to Price and Conditions of Sale, apply to
RASCON HERMANO

SHIPPING.

CASTLE LINE.—CAPE & NATAL MAILS.

WEEKLY SERVICE FOR THE GOLD FIELDS OF SOUTH AFRICA.—The CASTLE COMPANY'S STEAMERS leave LONDON (East India Dock Basin, Blackwall) every FRIDAY, and sail from SOUTHAMPTON every SATURDAY.

Steamers.	London.	Southampton.
Dunottar Castle (via Madeira) ...	November 13	November 14
Methven Castle (via Canaries) ...	November 17	November 18
Pembroke Castle (via Canaries)...	November 20	November 21
Dunvegan Castle (via Madeira)...	November 27	November 21
*Tintagel Castle (via Canaries).....	December 4	December 5
Roslin Castle (via Madeira)	December 11	December 12

* Also for Madagascar and Mauritius.
Return tickets to all Ports.
Free Tickets by Castle Express from Waterloo to Southampton.
Apply to DONALD CURRIE and Co., 3, Fenchurch Street, London, E.C.
West End Agency, THOS. COOK AND SON, 13, Cockspur Street.

UNION LINE.

FOR SOUTH AFRICAN GOLD FIELDS.—WEEKLY SERVICE.—CAPE OF GOOD HOPE, NATAL, and EAST AFRICAN ROYAL MAIL STEAMERS.—The UNION STEAMSHIP COMPANY'S ROYAL MAIL and INTERMEDIATE STEAMERS will Sail as follows for SOUTH and EAST AFRICA, calling at MADEIRA and TENERIFFE.

Steamers.	Antwerp.	Rotterdam.	Hamburg.	Southampton
§Athenian	Nov'mber 1	—	November 7	November 14
†Moor	—	—	—	November 21
‡[Greek(tw'n s'w)	—	November 15	November 21	November 28
†Scot(twin scr'w)	—	—	—	December 5

† Calling at Madeira. § Via Madeira and Teneriffe. ‡ Via St. Helena.
Free railway tickets from London and Plymouth to Southampton.
Cheap Tickets are issued for Passengers' Friends.
The Union Line Express is despatched from Waterloo Station (Main Line Platform) every Saturday.
RETURN TICKETS ISSUED.
Apply to the UNION STEAMSHIP COMPANY (Limited), Canute Road, Southampton; 14, Cockspur Street, London, S.W.; and South African House, 94 to 96, Bishopsgate Street Within, London, E.C.

BUSINESS CARDS.

AERIAL ROPEWAYS.
OTTO SYSTEM.
R. E. COMMANS (late Commans and Co.), 6, Queen Street Place, London, E.C.

ASBESTOS.
THE UNITED ASBESTOS COMPANY (Limited), Dock House, Billiter Street, London, E.C. Asbestos Goods of the highest quality.

EXPLOSIVES FOR MINING.
NOBEL'S EXPLOSIVES COMPANY (Limited), Glasgow. Manufacturers of Gelignite, Gelatine-Dynamite, Dynamite, Detonators, Electric Detonator Fuses, &c., &c.

FUSE MANUFACTURERS.
WILLIAM BENNETT, SONS, & CO., Roskear Fuse Works, Camborne, Cornwall. Manufacturers of the celebrated "Crown Brand" Blasting Fuse for Mining Purposes.

MAGNETIC ORE SEPARATORS
(KING'S PATENT.)
FOR SEPARATING IRON ORE FROM OTHER MINERALS.
Apply, FREDK. J. KING, 96, Leadenhall Street, London.

METAL PERFORATORS, &c.
J. & F. POOL,
METAL PERFORATORS & WIRE WEAVERS,
COPPERHOUSE, HAYLE, CORNWALL.
SPECIALITIES:—All descriptions of Perforated Metal Plates, Stamps' Battery-Screens, Wire Gauze and Sieves for Foreign and Home Mining, and other Purposes. Export orders carefully and promptly executed.

MINING ENGINEERS.
THEO. F. VAN WAGENEN, E.M.,
CONSULTING MINING ENGINEER.
Post Office Address: Box 589, Telluride, Colorado, U.S.A.
Cable Address: "Van," Telluride, Colorado, U.S.A.
REPORTS AND EXAMINATIONS ON MINES.
References: The Columbia University School of Mines, New York, and the Bank of Telluride, of Telluride, Colorado.

COLORADO MINING AND OTHER INVESTMENTS.
THOMAS TONGE, DENVER, COLORADO.
SPECIALITIES—Gold Properties; Leasing and Development Syndicates.
CABLE: "TONGE, DENVER." Code, "A. B. C.," Fourth Edition.

F. H. MASON, F.C.S., Metallurgist, Assayer, and Analytical Chemist. Refractory gold ores a speciality. Can be consulted with reference to Nova Scotian properties.—Queen Buildings, Halifax, Nova Scotia.—Cable address: Mason, Halifax. (Moreing's code.)

MINING INSTRUMENTS.
JOHN DAVIS & SON, All Saint's Works, Derby; and 115, Newgate Street, London. Mathematical instruments and miner's safety lamps.

MINING MACHINERY.
ESTABLISHED 1834.
M. H. DAVIS and SONS,
ABERYSTWYTH,
SUPPLY EVERY DESCRIPTION OF MINING STORES AND MACHINERY.
LONDON OFFICE: 325, MANSION HOUSE CHAMBERS.

FRASER & CHALMERS (Limited), 43, Threadneedle Street, London, E.C. Mining machinery of the most approved design.

ROBEY & CO. (LIMITED), Manufacturers of Steam Engines, Mining Machinery, &c. Makers of the Robey Patent Automatic Expansion Gear.—Globe Works, Lincoln.

GATES IRON WORKS, 73A, Queen Victoria Street, E.C. The Gates Rock and Ore Breaker effects a great saving in power.

ORE DRESSING MACHINERY.
THE LÜHRIG COAL AND ORE DRESSING APPLIANCES (LIMITED),
32, VICTORIA STREET, LONDON, S.W.
COMPLETE DRESSING PLANTS for Gold, Silver, Lead, and Copper Ores, &c., designed and erected.
LÜHRIG SINGLE AND COMPOUND VANNERS for Low Grade Ores and Tailings.
IMPROVED BREAKERS, ROLLS, JIGS, AND SEPARATING DRUMS.
Tests made with Samples at London Works Free of Charge

ORE REDUCTION.
THE CLARKSON-STANFIELD ORE REDUCTION COMPANY (Limited). Process for the treatment of gold, silver, copper, lead, and other ores.—Address, 6, Colonial Avenue, Minories, London, E.

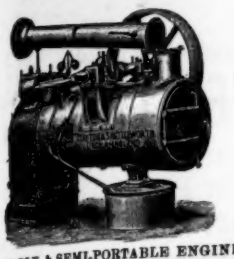
ROCK DRILLS.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.

TUBE MAKER.
GEO. J. CHATTERTON, manufacturer of lead pipe, block tin pipe, and tinned composition gas tube.—Caledonian Road, London, N.

EL MINERO MEXICANO.
The Mining and Industrial Journal of Mexico,
ESTABLISHED 1873.
Published in the City of Mexico every THURSDAY, in the Spanish Language.
Taken by Mine Owners, Capitalists, Manufacturers, Merchants, the richest and most liberal people, all over Mexico.
THE BEST ADVERTISING MEDIUM.
MEXICAN PATENT & TRADE MARK AGENCY,
A, Independencia No. 1, City of Mexico.
RICHARD E. CHISM, M.E., Editor and Proprietor.

CLAYTON and SHUTTLEWORTH,

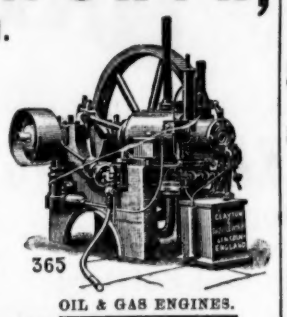
LINCOLN, & 95, QUEEN VICTORIA STREET, LONDON.



PORTABLE & SEMI-PORTABLE ENGINES.

UNDERTYPE ENGINES.

TRACTION ENGINES.



OIL & GAS ENGINES.

ALSO FIXED ENGINES, CORNISH BOILERS, THRASHING MACHINES, STRAW ELEVATORS, CHAFF CUTTERS, MAIZE SHELLERS, GRINDING MILLS, SAW BENCHES, CENTRIFUGAL PUMPS, &c.

UPWARDS OF *60,000 ENGINES* and *THRASHING MACHINES* MADE and SOLD.

CATALOGUES FREE by POST to any PART of the WORLD.

☞ Owing to increased facilities CLAYTON and SHUTTLEWORTH can now execute orders at short notice.

SACHSENBERG BROS., Ltd.,

ENGINEERS and SHIPBUILDERS,

ROSSLAU-ON-ELBE (GERMANY).

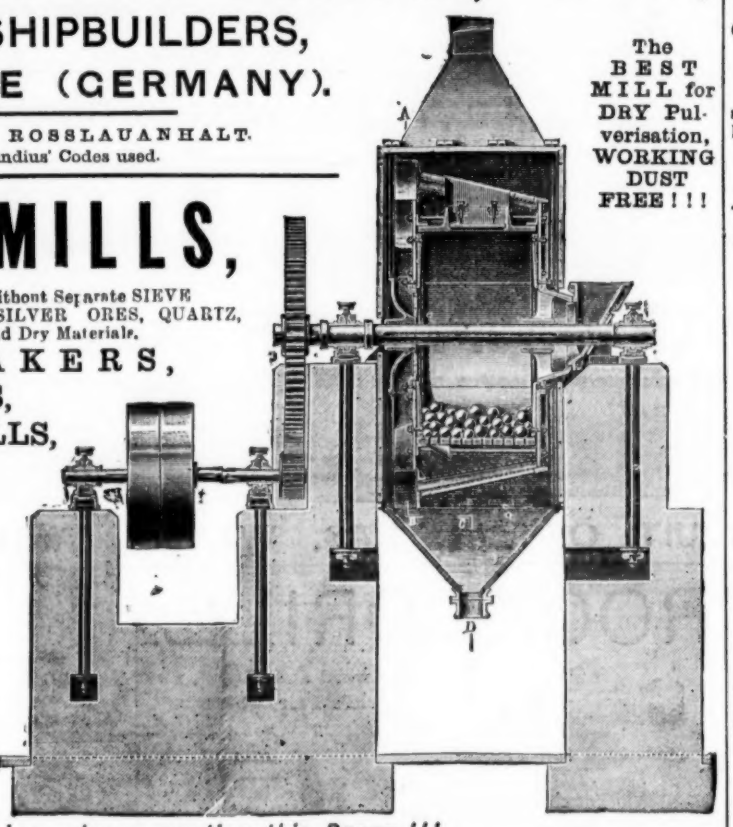
Telegrams: SACHSENBERG, ROSSLAUANHALT.
A. B. C. and Staudt and Hundius' Codes used.

THE LEADING MAKERS OF **BALL MILLS,**

With continuous FEED and DELIVERY, without Separate SIEVE CYLINDER for disintegrating GOLD and SILVER ORES, QUARTZ, CEMENT, SLAGS, and other Hard and Dry Materials.

STONE BREAKERS,
EDGE RUNNERS,
CRUSHING ROLLER MILLS,
STEAM ENGINES
AND BOILERS OF ALL
DESIGNS, WITH LATEST IMPROVEMENTS.
HIGH-SPEED ENGINES,
SHALLOW DRAUGHT STEAMERS,
DREDGERS, BARGES, &c.
BRICK-MAKING MACHINERY.

ESTIMATES AND CATALOGUES FREE ON APPLICATION.



The BEST MILL for DRY Pulverisation, WORKING DUST FREE!!!

When enquiring, please mention this Paper !!!

ELLIMAN'S ROYAL EMBROCATION

USING ELLIMAN'S EASIER HAULAGE

From His Grace the Duke of Rutland.
Belvoir, Grantham,
December 1st, 1879.

SIR,—Elliman's Royal Embrocation is used in my stables; think it very useful.
RUTLAND.
Master of the Belvoir Hounds.

From the Earl of Harrington.
January 9th, 1889.

SIR,—Elliman's Royal Embrocation is used in my stables, and I consider it the best that I can obtain. HARRINGTON.
Master of the South Wilts Hounds.

From Major M. J. Balfe,
South Park.
June 16th, 1892.

SIR,—Elliman's Royal Embrocation is used in my stables and I can highly recommend it.
M. J. BALFE.
Master of the Roscommon County Staghounds.

From Lord Haddington, Tyningham, Prestonkirk, N.B.
December 27th, 1885.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it indispensable in any stable, but especially in the stable of a Master of Hounds.
HADDINGTON.
Master of the Berwickshire Hounds.

From R. Burdon Sanderson Esq., Warren House, Belford.
July 10th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables and I consider it very useful.
R. BURDON SANDERSON.
Master of Percy Foxhounds.

From Wm. J. Buckley, Esq., Penyfai, Llanelly.
July 16th, 1892.

DEAR SIRS,—I have much pleasure in recommending your Royal Embrocation. I always keep a stock in my stables and kennels. My farm bailiff has also found it of much value among my herd.
WM. J. BUCKLEY.
Master of Carmarthenshire Foxhounds.

MACARTHUR-FORREST PROCESS.

TO MINE OWNERS AND OTHERS

Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

The chief features of this Process are:—

SIMPLICITY, ECONOMY IN WORKING, and SMALL COST of PLANT.

PROPRIETORS:—

The Cassel Gold Extracting Co. (Ltd.)

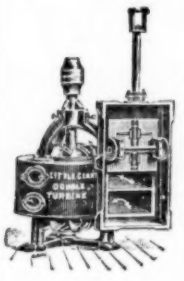
Head Office—108a, Hope Street, Glasgow.
London Office—23, College Hill, Cannon Street, E.C.
Africa—The African Gold Recovery Co. (Ltd.), Johannesburg.
Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and James R. Fowler, 14, King Street, Adelaide.
United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.
Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.), 2a, Calle de Providencia, No. 7, Mexico City, Mexico.
Chili—Mr. J. A. W. Murdoch, Calle Almendro, Valparaiso.
New Zealand—The Cassel Gold Extracting Co. (Ltd.), 6, Herald Buildings, Queen Street, Auckland.
Canada—Mr. W. Pellew Harvey, F.C.S., 717 and 719, Pender Street, Vancouver City, British Columbia.

The CASSEL GOLD EXTRACTING Co. (Ltd.) are manufacturers of CYANIDE, suitable for the MacArthur-Forrest Process.

For terms, apply at Head Office of the Company,
108a, Hope Street, GLASGOW.

TURBINES.

FACTS!



Little Giant Turbine.

Unlike other Turbines, with from 12 to 24 water inlets to supply it with water, our LITTLE GIANT Wheel has one Vertical Gate only, so that no waste of water, power, and no stoppages takes place owing to small rubbish lodging in the gates as in other types of turbines.

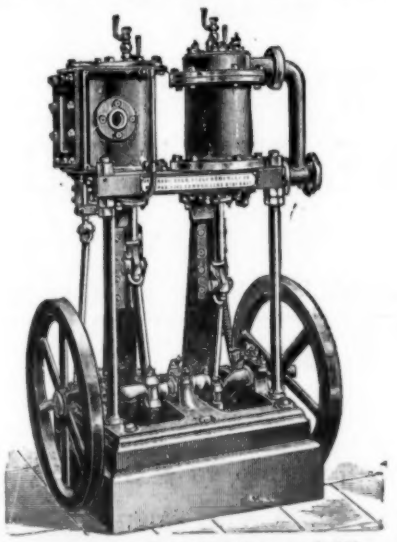
FULL PARTICULARS SENT FREE.

S. HOWES, HYDRAULIC ENGINEER.
64, MARK LANE, LONDON,
AND AT SILVER CREEK, N.Y., U.S.A. E.C.

"CHAMPION"

ROCK DRILLS & AIR COMPRESSORS,

Unrivalled for Efficiency and Durability.



Contractors to the Admiralty and War Office.

The CHAMPION ROCK-BORER and AIR COMPRESSOR CO.

SOLE PROPRIETORS:

E. P. and H. P. VACHER,
63, Queen Victoria St., London, E.C.

Telegrams: "TURNSCREW, LONDON."

TURBINES, WATER WHEELS, WATER MOTORS, RAMS, &c.

THE CORNISH POST & MINING NEWS.

THE BEST MINING PAPER IN CORNWALL.

Circulates largely in South Africa, the United States, Australia, and Mining Camps all over the World.

PUBLISHED AT CAMBORNE, CORNWALL,

EVERY THURSDAY and SATURDAY. Price ONE PENNY.

"THE CORNISH POST" is a large eight-page newspaper, containing Mining Interviews, Mining Notes, News from Foreign Mines, Sketches of Cornish Life, Cornish Stories, and other interesting matter. Specimen copy sent free. Since the paper has been under New Management the sales have been nearly doubled, and advertisers find it an admirable medium for reaching the public.

Camborne, Cornwall. HERBERT THOMAS, Manager.

The COUNTY GENTLEMAN'S PAPER for Cheshire, Shropshire, and North Wales is

THE CHESTER COURANT.

(ESTABLISHED 1730.)

The CHESTER COURANT goes into all the best houses, and has a Subscription List of remarkable scope and character. It is a most suitable medium for advertising Patent Machinery used on large Farms or County Estates

THE AUSTRALIAN MINING STANDARD

IS THE

ONLY RECORD OF MINING, FINANCIAL, and ENGINEERING PROGRESS IN THE SOUTHERN HEMISPHERE.

PUBLISHED WEEKLY. ILLUSTRATED.

Subscription, 30s. per annum (payable in advance).

Dr. E. D. PETERS, Jun., says:—"*The Mining Standard* is the best Mining Journal in the World, save one."

THE AUSTRALIAN MINING STANDARD COMPANY, LIMITED.
Printers and Publishers,
SYDNEY AND MELBOURNE.

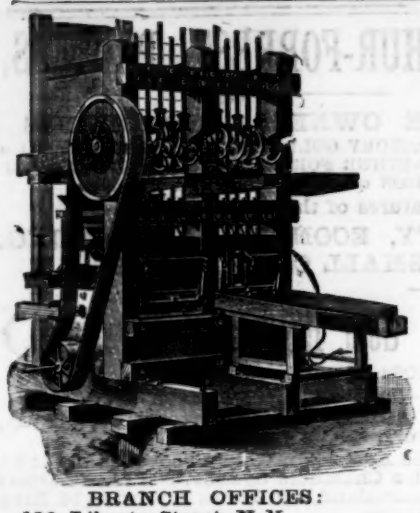
LIVERPOOL JOURNAL OF COMMERCE

Is the best FINANCIAL and COMMERCIAL PAPER in the Provinces.

Is now Enlarged to Eight Pages.

Contains more Commercial and Shipping News than any other Morning Paper.

Proprietor, CHARLES BIRCHALL, 32, Castle Street, Liverpool
LONDON OFFICE.—38, GRACECHURCH STREET.



GATES ROCK AND ORE BREAKER

Still leads the World. It has greatly cheapened the cost of Macadam and ballast, and made low grade ores profitable.

GENERAL MINING MACHINERY OF IMPROVED DESIGNS.

Stamps.	Hoists.	Smelters.	Chlorination Works.
Concentrators.	Rolls.	Elevators.	Cyanide Plants.
Pans and Settlers.	Connersville Blowers.		Screens, Cars, &c.

Our Specialty is the Complete Plans and Installation of Mills. Engineers ready to visit any part of the World in the Interest of Customers.

AGENTS for HADFIELD'S MANGANESE AND CHROME STEEL, Manfd. by Taylor Iron and Steel Works
TREMAIN STEAM STAMP MILLS. AGENTS FOR TRENTON WIRE ROPE.

ESTIMATES AND CATALOGUES FREE ON APPLICATION. ORDERS AND CORRESPONDENCE SOLICITED.

BRANCH OFFICES:
136, Liberty Street, N. Y.
73a, Queen Victoria Street, London.
Butte, Montana.
11, Calle de Gante, City of Mexico.

CHICAGO CITY OFFICE:
1112, MASONIC TEMPLE.

MAIN OFFICE AND WORKS:
650, ELSTON AVE., CHICAGO, ILLS., U.S.A.

GATES IRON WORKS.

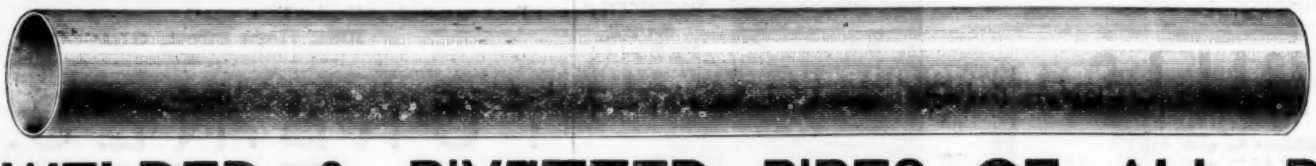
EUROPEAN OFFICE:
73a, QUEEN VICTORIA STREET, LONDON, E.C.

Cable Address: "GYRATING, LONDON."

TELEGRAMS: "Atlas," Birmingham.

THOMAS PIGGOTT & CO., LD., ATLAS WORKS, BIRMINGHAM.

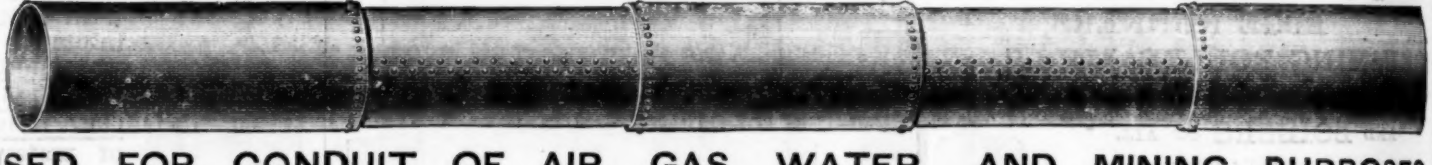
TELEGRAMS: "Intersection," London.



WITH ANGLE IRON AND STAMPED STEEL FLANGES, WELDED SOCKETS & KIMBERLEY COLLARS.

WELDED & RIVETTED PIPES OF ALL DESCRIPTIONS.

From 8 Inches Diameter and Upwards.

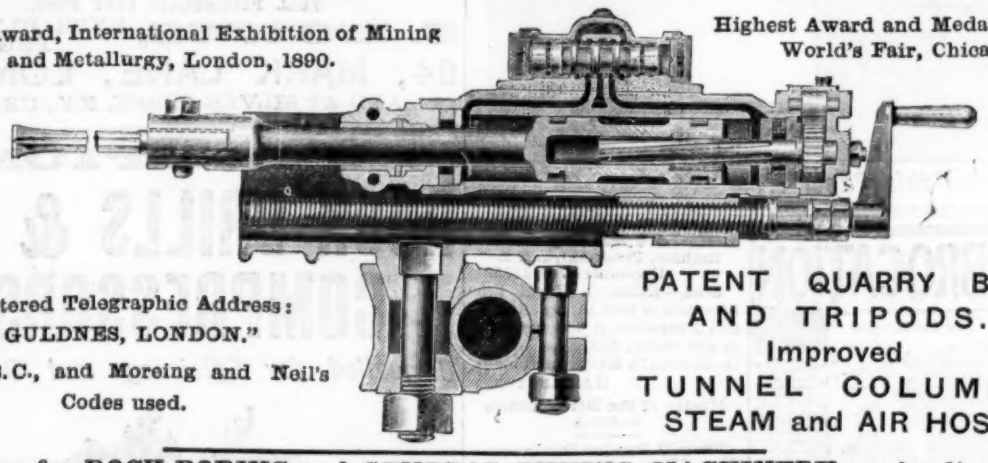


LARGELY USED FOR CONDUIT OF AIR, GAS, WATER AND MINING PURPOSES.

THE "DAW" ROCK DRILL.

Highest Award, International Exhibition of Mining and Metallurgy, London, 1890.

Highest Award and Medal, World's Fair, Chicago.



Registered Telegraphic Address:
"GULDNES, LONDON."
A1, A.B.C., and Moreing and Neil's Codes used.

PATENT QUARRY BARS AND TRIPODS.
Improved TUNNEL COLUMNS.
STEAM and AIR HOSE.

Estimates for ROCK BORING and GENERAL MINING MACHINERY on Application.

PATENTEES AND MANUFACTURERS:

A. & Z. DAW, II, QUEEN VICTORIA STREET, LONDON, E.C.

ALSO SOLE MAKERS OF

THE "DAW" AIR COMPRESSING ENGINES.

CONTRACTS for all KINDS of ROCK DRILLING UNDERTAKEN.

TONITE

IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST OF ALL EXPLOSIVES.

TONITE is a most efficient and economical blasting agent, and is largely in demand, It is exempt from freezing and the consequent dangerous process of thawing.

THE COMPANY ALSO MANUFACTURE

GELIGNITE, BLASTING GELATINE, &c.
DETONATORS, Suitable for all Classes of Explosives.
ELECTRIC DETONATORS, High or Low Tension.
ELECTRIC APPLIANCES, of all Descriptions.
SAFETY FUSE.

Address—THE COTTON POWDER COMPANY (Limited),
116, QUEEN VICTORIA STREET, E.C.

PUBLICATIONS.

"MINING MACHINERY."—The best Book of its kind in the market (see reviews). Price 5s. To be had of HENRY DAVIES, County Mining Lecturer, Treharris, South Wales.

HOW TO INVEST IN MINES.

A REVIEW of the MINE, the COMPANY, and the MARKET; also a GLOSSARY of MINING TERMS.

By E. R. GABBOTT, Author of "How to Invest Money."

PRICE, 2s 6d.

LONDON: EFFINGHAM WILSON, Royal Exchange, E.C.

WORKS on MINING, METALLURGY, and ALLIED SUBJECTS.

A Geological Sketch of the Coolgardie Gold Field. By ERENTON SYMONS, F.C.S., M.I.C.E. 1s.

A Hand-Book of Gold Milling. By HENRY LOUIS, A.R.S.M., F.G.S., &c. Crown 8vo., 10s. net. Postage 6d.

The Golden Quartz Reefs of Australia. By WILLIAM NICHOLAS, F.G.S., with Illustrations. A series of Articles especially relating to the Bendigo Gold Field, Victoria. 2s., Post free.

A New Guide to the Iron Trade, or Mill Managers' and Stock Takers' Assistant. By JAMES ROSS, of Batmas's Hill Iron-Works. Second Edition. Comprising a Series of New and Comprehensive Tables, practically arranged to show at one view the Weight of Iron required to produce Boiler Plates, Sheet Iron, and Flat, Square, and Round Bars, as well as Hoop or Strip Iron of any dimensions, to which is added a variety of Tables for the convenience of Merchants, including a Rental Table. 8s. 6d. Postage 2½d.

The Colliery Ready-Reckoner and Wages Calculator. By JAMES IRELAND. 1s. 6d., Post free.

Tacknote: a Form of Licence to Explore and Search for Mines, Minerals, &c. 1s., Post free.

Notes on the Philippine Islands: A Pamphlet Reprint. By FRANK KARUTH, F.R.G.S. 6d. Post free.

History of the Holmbush, Redmoor, and Kelly Bray Mines: with Several Sections of the Workings. By W. F. WILKINSON. 1s. Post free.

The Law of Merchandise Marks. By FRANK SAFFORD, Recorder of Canterbury, and a Member of the London Chamber of Commerce. 7s. 6d.

LONDON:
THE MINING JOURNAL,
18, FINCH LANE, E.C., and
3, DORSET BUILDINGS, SALISBURY SQUARE, E.C.

THE MOST NUTRITIOUS COCOA.

EPPS'S

GRATEFUL—COMFORTING.

COCOA.

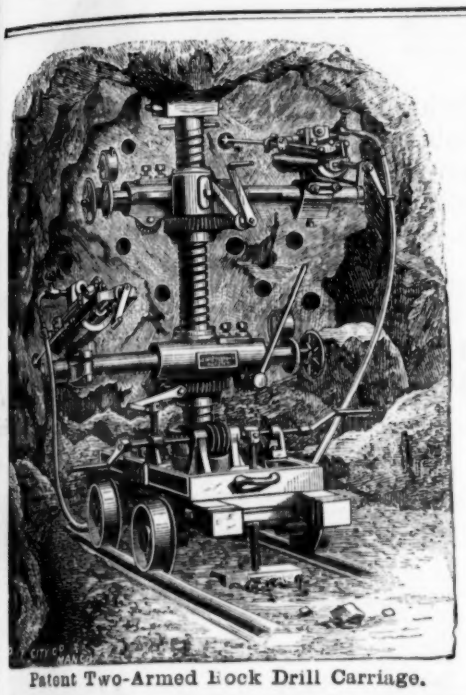
WITH FULL NATURAL FLAVOUR.

ROBURITE N°. 3.

The Cheapest, Best, and Safest Explosive for Coal Mines, QUARRIES, MINES, AND CONTRACTORS' WORK.

As recommended by the Flameless Explosives Committee of the N.E.Inst.M.E., every Cartridge is stamped "Roburite No. 3," and each 5 lb. Package bears the date of Manufacture and Description of Ingredients.

THE ROBURITE EXPLOSIVES COMPANY, LIMITED,
103, CANNON STREET, LONDON, E.C. Works: GATHURST, near WIGAN.



Patent Two-Armed Rock Drill Carriage.

THE PATENT "HIRNANT" MINING PLANT,
ROCK DRILLS, ROCK DRILL CARRIAGES,
AIR COMPRESSORS, STRETCHER BARS,
COLUMNS, CLAMPS, AIR PIPES, &c.
NEW PATENT SINKING CARRIAGE,
THE MOST RELIABLE MACHINERY KNOWN.

SOLE PROPRIETORS AND MAKERS:

THOMAS LARMUTH AND Co.,
Salford, Manchester.

INTENDING PURCHASERS WAITED UPON PERSONALLY.

Agents for South Africa, Messrs. REUNERT and LENZ, Johannesburg.

EASTON, ANDERSON, & GOOLDEN, Limited,

Telegrams: EGYPTIAN, LONDON. Telephone: 3695.
3, WHITEHALL PLACE, LONDON, S.W. ERITH IRON WORKS, ERITH, KENT.
And JOHANNESBURG ... F. W. STOKER, Esq. AUSTRALIA ... Messrs. HARROLD BROS. TASMANIA ... SALISBURY FOUNDRY CO.

MANUFACTURERS OF

MINING MACHINERY of every description. ELECTRICAL, HAULING, and WINDING PLANTS.
ELECTRICAL PUMPING PLANTS. ELECTRICAL ROCK DRILLS.

Plants have recently been supplied to the following amongst other Mines:—

THE CHAMP D'OR DEEP LEVEL GOLD MINING COMPANY.
THE CASSEL COLLIERY COMPANY.
VILLAGE MAIN REEF GOLD MINING COMPANY.
THE GOLD FIELDS DEEP.
METROPOLITAN GOLD MINING COMPANY.
MEYER AND CHARLTON GOLD MINING COMPANY.
ROODEPOORT DEEP LEVEL GOLD MINE COMPANY.
MAY CONSOLIDATED GOLD MINING COMPANY.
GEORGE GOCH GOLD MINING COMPANY.
SALISBURY JUBILEE JOINT MILL.
MOODIES GOLD MINING EXPLORATION COMPANY (LIMITED).
WITWATERSRAND GOLD MINING COMPANY.
FERREIRA GOLD MINING COMPANY.
NIGEL GOLD MINE COMPANY.

SOLE MANUFACTURERS OF THE

NIAGARA CRUSHER, PULVERISER, & CONCENTRATOR.

The most Successful MACHINE in the WORLD. A 5-foot QUARTZ MACHINE will do more and better Work than five head of STAMPS, Costs half the Price. Uses half the Power. Repairs do not exceed 2½ per cent. per annum on first cost. Any Ore, however Refractory, is speedily reduced to a Uniform Power of any desired fineness, while the CONCENTRATOR SEPARATES THE VALUABLE ORE FROM THE MATRIX WITHOUT EXTRA POWER.

For full particulars of the NIAGARA PULVERISER, apply to the

NIAGARA PULVERISER SYNDICATE (LIMITED), 3, WHITEHALL PLACE, S.W.

THE HUMBOLDT ENGINEERING WORKS Co., KALK, NEAR COLOGNE.

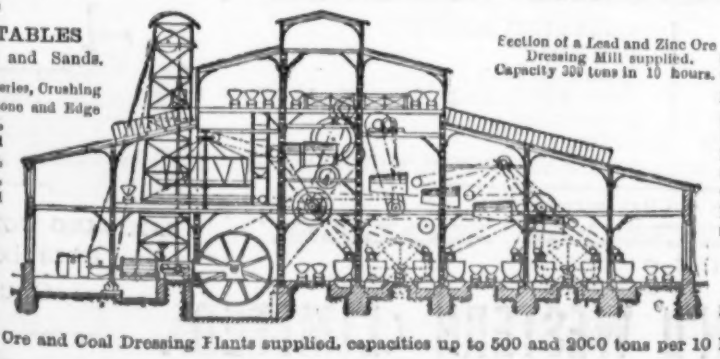
MAKERS OF **MINING, ORE DRESSING, & COAL WASHING PLANT.**

Reducing, Concentrating, Sizing, Screening, Elevating, Conveying, and Loading Machinery.

PATENT LINKENBACH TABLES
For enriching Slimes and Sands.

Stone Breakers, Stamp Batteries, Crushing Rolls, Disintegrators, Burr Stone and Edge Runner Mills, Schrenn's, Hulett's, Umfrid's, Ball and other Mills, Trommels, Jiggers, Self Wheels, Spitzkasten, Separation, Percussion, and Both Tables.

PERFORATED PLATES.
All kinds, in all Metals.



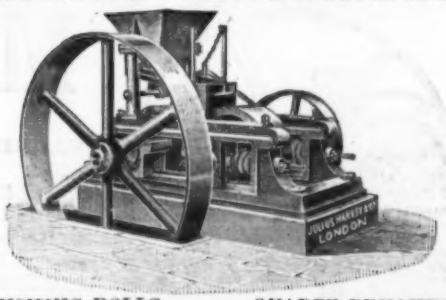
Section of a Lead and Zinc Ore Dressing Mill supplied. Capacity 300 tons in 10 hours.

HIGH-CLASS ENGINES,
Steam Boilers Ironwork, Winding, Hauling, and Pumping Plant, Air Compressors, Percussion and Rotary Rock Drills, Guibal Fans, Ventilators, Cages, Skips, Keeps, Tippers, Conveyors, Elevators, Lifts, Picking Tables and Bands, Spiral Screens, Chain Haulage.

EXPERIMENTAL PLANT
For testing Ores, &c., at Kalk.

Over 300 complete Ore and Coal Dressing Plants supplied, capacities up to 500 and 2000 tons per 10 Hours, respectively.

MINING MACHINERY.



CRUSHING ROLLS. QUARTZ BREAKERS.
STAMP BATTERIES. CONCENTRATORS.
ENGINES & BOILERS. ELECTRICAL PLANT.

Machinery of every description Purchased, Inspected, and Shipped on favourable terms.

JULIUS HARVEY & CO., 11, Queen Victoria St., LONDON, E.C.

Telegrams: CROSSHEAD, London. Catalogues on Application.

MARSDEN'S PATENT DRY CRUSHER AND PULVERIZER.

Specially applicable for use in connection with the

CYANIDE PROCESS.

Will Crush to any Degree of Fineness required, and in connection with the

Blake-Marsden Stonebreaker and Ore Crusher,

is far superior to Rolls, and is the most economical and efficient Plant extant.

THE CHIEF ADVANTAGES OF THIS SYSTEM OF REDUCTION CONSIST IN

Great Saving in first Cost of Plant.

Avoidance of the FORMATION of SLIMES.

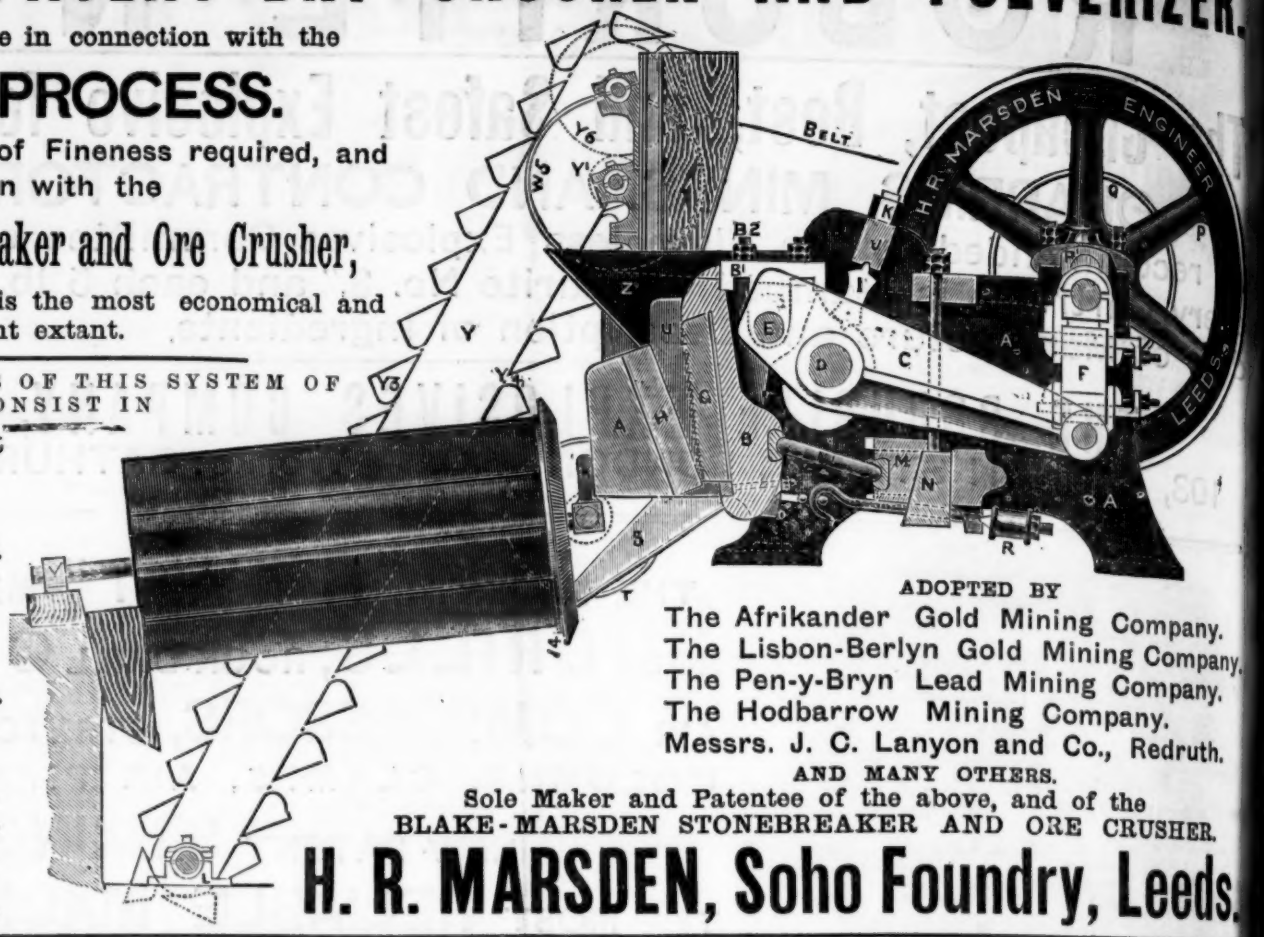
SMALL COST OF MAINTENANCE.

SMALL POWER REQUIRED TO DRIVE.

SIMPLICITY OF CONSTRUCTION.

Can be seen in Operation by appointment at the Works,

SOHO FOUNDRY LEEDS.



ADOPTED BY
The Afrikander Gold Mining Company.
The Lisbon-Berlyn Gold Mining Company.
The Pen-y-Bryn Lead Mining Company.
The Hodbarrow Mining Company.
Messrs. J. C. Lanyon and Co., Redruth.
AND MANY OTHERS.

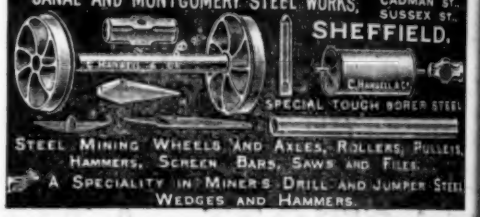
Sole Maker and Patentee of the above, and of the BLAKE-MARSDEN STONEBREAKER AND ORE CRUSHER.

H. R. MARSDEN, Soho Foundry, Leeds.

THOMAS SMITH & SONS OF SALTLEY, LIMITED,
BIRMINGHAM.
WILLIAM SMITH, Managing Director.
Manchester National Telephone No. 2892. Birmingham National Telephone No. 314.
Manchester Office—ARCADE CHAMBERS, ST. MARY'S GATE.
Telegraphic Addresses—"HAMMERS, BIRMINGHAM." "STAMPERS, MANCHESTER."

Manufacturers of Drop Forged Engineers' and other Spanners, Drop Forgings, Hand Forgings, Pressed Work and Machined Work of every Description; Hammers, Heavy Edge Tools, Heavy Steel Toys, Tools for Engineers, Plate Layers, Miners, &c. Coach and Railway Wrenches, Spanners, Picks, Eyebolts, Bolts, and Nuts.

CHARLES HANSELL & Co.,
CANAL AND MONTGOMERY STEEL WORKS, CADMAN ST., SUSSEX ST.,
SHEFFIELD.



STEEL MINING WHEELS AND AXLES, ROLLERS, PULLEYS, HAMMERS, SCREEN BARS, SAWS AND FILES.
A SPECIALITY IN MINER'S DRILL AND JUMPER STEEL WEDGES AND HAMMERS.

ACCIDENTS OF TRAVEL.
ACCIDENTS RIDING, DRIVING, SHOOTING, CYCLING, FISHING, SKATING, &c.
ACCIDENTS OF ALL KINDS
INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE COMPANY,
64, CORNHILL, LONDON. A. VIAN, Secretary.

ONLY GOLD MEDAL FOR ALLOYS, INVENTIONS EXHIBITION.

"PHOSPHOR-BRONZE." (Cog Wheel Brand.)
The Best Alloys for all Wearing parts of Machinery, Bearings, &c.
BEWARE OF ALL IMITATIONS, & SPECIFY THE COMPANY'S MARK.

BULL'S METAL, Ingots, Forgings, Castings, Stampings, Rods and Sheet. } Specially adapted for Mining Work.

The Phosphor Bronze Company
(LIMITED).
87, SUMNER STREET, SOUTHWARK, LONDON, S.E.

DELTA METAL
FOR ALL ENGINEERING WORK.
STRONGER AND MORE DURABLE THAN STEEL.
Specially Adapted for MINING WORK
on account of its very high Resistance to Corrosion.

DELTA

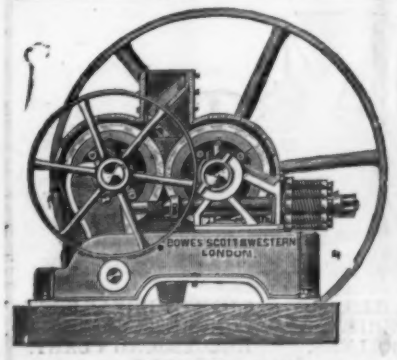
CAST, FORGED, STAMPED, ROLLED, DRAWN.
For full Particulars and Prices apply to
THE DELTA METAL COMPANY (Ltd).
110, Cannon Street, London, E.C.
Telegrams:—"DELTA," London. Telephone No. 11292.

EVERY VARIETY OF
PUMPING MACHINERY
95000 PUMPS SOLD
BLAKE & KNOWLES Lº
117 QUEEN VICTORIA Sᵀ LONDON
20000 PUMPS IN MINES
MINING PUMPS of the BEST TYPE, A SPECIALITY.

BRUNTON and PEARSE'S PATENT POCKET MINE TRANSIT.

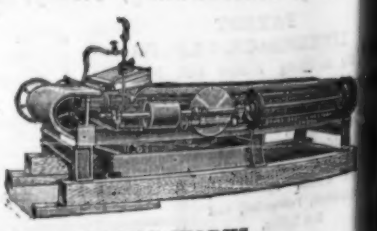
In Aluminium and Silver. Price £5 post free to any part of the United Kingdom or the Colonies.
For circular and particulars apply to
ARTHUR L. PEARSE,
7, ST. MILDRED'S COURT, POULTRY, LONDON.

MINING MACHINERY.



OFFICE:
Broadway Chambers,
WESTMINSTER.
Telegraphic Address: "DONBOWES."

VANNERS.
JIGS.
AMALGAMATING PANS.
SETTLERS & CLEAN UP PANS.
SCREENS OF ALL KINDS.
CRUSHING ROLLS.
STAMPS.
BALL MILLS.
ROASTING AND WATER JACKET-FURNACES.
AMALGAM RETORTS &c.
ENGINES SINGLE & COMPOUND, BOILERS OF ALL KINDS, TURBINES, &c.



SOLE LICENSEES AND MANUFACTURERS OF
"Patent" KROM ROLLS.
FOR FINE CRUSHING.
ASSAYS CONDUCTED
BOWES SCOTT AND WESTERN (LIMITED), LONDON.
SAMPLING WORKS,
Phœnix Wharf,
Church Road,
BATTERSEA

EDITORIAL AND ADVERTISEMENT OFFICES:—15, FINCH LANE, E.C.
Printed for the Registered Proprietors by JOHN ROBERT GALE, at their Printing Offices 3, DORSET BUILDINGS, SALISBURY SQUARE, in the Parish of St. Bride's, in the City of London.—November 7, 1896.